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I. ENOCH C. WINES.

ENOCH C. WINES, D.D. LL.D., first President of the City University, St. Louis, Missouri, was born in Hanover Township, Morris County, New Jersey, on the 17th day of February, 1806. His ancestors were from Wales. They were among the first settlers of the eastern portion of Long Island, where many of their descendants still reside. One of them, the Rev. Abijah Wines, was the first professor of theology in the Theological Seminary of Bangor, Maine. The father of Dr. Wines was a farmer, and having removed from New Jersey to Vermont when his son was about six years of age, he purchased land on the beautiful and romantic shores of Lake Champlain; and here was laid the foundation of that robust frame and vigorous health, which have aided so largely in the successful prosecution of whatever that son has since undertaken. He does not hesitate to express his great indebtedness to his father for having wisely kept him at work on the farm until he was fifteen years old; for his physical constitution was in this way so matured and strengthened, that, in the severest and most protracted mental labors, he has never broken down, and indeed has never suffered but one serious attack of illness through a life extending over half a century.

More is due to the influences surrounding us when our education, in the true sense of the word, begins, than is perhaps generally supposed or admitted. The instructions of parents, the nature of our youthful employments, the objects which we daily contemplate, and the companions with whom we daily associate, inevitably make their abiding impression, and can not, in justice, be passed over when seeking to know how a human mind was educated. Something more than schools is to be taken into account; something that often shapes all the acquirements made in schools, and gives direction to our intellectual efforts when we ourselves may be wholly unconscious of the origin of the impulse. The scholastic advantages of young Wines were poor enough, having nothing better than the ordinary district school to attend in the winter months, at a time when the cheapest teachers were employed rather to take care of the children than instruct them; but it was not without lasting benefit that, while his

frame was hardening under the healthful work of the farm, he had leisure for reflection and self-communion and patient thought, as he followed the slow plough. Nor must we leave out of view another of his educators of a different character, found in the sublime scenery around Lake Champlain. There were gentle voices speaking to the boy mysteriously from the clear water and blue mountains, and the echo of these voices is still heard after the lapse of forty years. The result of these silent but potent influences is still seen in many a poetic thought, starting out from the midst of the most logical discussions, like gems flashing here and there in a quarry of solid rocks.

At the age of fifteen he was sent to the Castleton Academy, then under the care of Henry How, A. M., who united in himself the high qualities of the ripe scholar, the skillful teacher, and the polished christian gentleman. Two years afterwards he entered Middlebury College, Vermont. The faculty at that time was composed of gentlemen of acknowledged worth and distinguished ability. The venerable Joshua Bates, D.D., was president; Robert B. Patton, one of the most eminent Greek scholars our country has ever produced, was professor of the Greek language and literature; and the Rev. Dr. John Hough, a gentleman of rare genius and of the highest culture, was professor of Latin. Here he was graduated in 1827, receiving the second honor in his class, in the Latin salutatory, the valedictory oration, which was the first, having been assigned to Henry Smith, (now the Rev. Dr. Smith,) for many years professor of languages in Marietta College, Ohio, and subsequently president of the same, and at the present time, (1860,) professor of ecclesiastical history in the Lane Theological Seminary near Cincinnati.

Immediately after his graduation, Dr. Wines became principal of the academy in St. Albans, Vermont. Here, however, he continued only six months, in consequence of having accepted the offer of a private school in Washington city. At the expiration of a year in this new field of labor, where he gave high promise of his future usefulness and distinction, he was appointed professor of mathematics in the United States Navy, and was ordered on board the frigate Constellation for a cruise up the Mediterranean. While he desired to visit and see for himself the scenes and cities of the old world, with which his youthful studies had made him familiar, his principal motive for seeking this position was his desire to perfect himself in the languages of southern Europe—an object which good health and assiduous diligence enabled him fully to accomplish.

On his return, he made his first venture as an author, in the publication, through the well-known house of Carey & Lea, Philadelphia,

of two volumes, 12mo., entitled "*Two Years and a Half in the American Navy.*" This work met with a favor and a success far beyond the author's expectations. It was reviewed in terms of high commendation by the leading papers and magazines of the country. It was republished in England, where, with a solitary exception, it met with a like favor from the literary journals of the united kingdom.

About this time, summer of 1832, he was married to Miss Emma, daughter of Arthur Joseph Stansbury, Esq., of Washington city, the veteran and accomplished reporter of the "*National Intelligencer.*"

Seven sons have blessed this happy and still unbroken union, of whom three are yet spared. Two of them, young gentlemen of fine talents and culture, are on the eve of entering the gospel ministry.

In the autumn of the same year, 1832, Prof. R. B. Patton, his old teacher in Greek, invited him to become his successor in the principalship of the Edgehill School, Princeton, New Jersey; a position which Dr. Wines accepted and assumed the following spring. This school was established in some degree, though not fully, upon the plan of the German gymnasia, a class of institutions with which a two years' residence in Germany had made Prof. Patton familiar. It had already attained a high reputation under the skillful and able administration of its founder. Fortunately it did not lose any portion of its renown or of its success after it had passed into the hands of Dr. Wines. Not half the applications for places in the school could receive a favorable response during the time of his connection with it. The sons of many of the most distinguished gentlemen in every part of the United States, were placed under his care; among others, those of Senators Clay of Kentucky, Barnard of Louisiana, Crawford of Georgia, Archer and Barber of Virginia, Southard of New Jersey, and many others scarcely less famous in the history of the country. The impression made upon the mind and heart of ingenuous youth by his labors in the Edgehill school, as well as the estimate placed upon them in after years by intelligent and cultivated men, is clearly seen in the subjoined communication from the Hon. Henry R. Jackson, of Georgia, one of the most eminent scholars and accomplished writers, as well as one of the ablest lawyers in the land, who for several years filled, with honor to himself and advantage to his country, the post of Minister Plenipotentiary to the Court of Austria. The letter is as follows:—

SAVANNAH, Georgia, Oct. 10th, 1859.

DEAR SIR:—Having understood that you are collecting materials for a biographical sketch of the Rev. E. C. Wines, I make bold to lay before you some of my own reminiscences of that gentleman as a teacher, to be disposed of according to your pleasure.

My acquaintance with Mr. Wines began at Princeton, N. J., in 1833, when he was principal and I a pupil of Edgehill Seminary; and I have always regarded the two years spent under his charge, as decidedly the most profitable of my educational life. That the reminiscences connected with them should be pleasing is not at all extraordinary, since there must be some abnormal influence at work to cast a cloud over buoyant, healthful, hopeful youth; and certainly there was nothing either in the personal disposition of Mr. Wines himself, or in the system of moral discipline which he adopted for his school, to engender such an influence. As I remember the one, it was genial, gentle, and patient to a peculiar degree; and the characteristic feature of the other was, that it substituted the familiar companionship of the tutor with the pupil as well at play as at work, and a standing appeal to the honor and noble impulses of the boy, for other and harsher expedients.

That I should remember my life at Edgehill, far more by its lights than its shadows, is therefore not to be wondered at; but I have always thought it remarkable that while the impressions left upon my mind by all contemporaneous and subsequent instruction, whether at school or at college, if not wholly lost, have been sadly worn away by the lapse of time, those made by the tuition of Mr. Wines have remained indelible, and still wear their own distinctive stamp. It may be said with indisputable force, that the first great object of education, and especially the education of the school, is to develop the mind, to set its complex machinery at play, irrespective of any positive information, of any lasting memories to be garnered; but will it be denied that if, at the same time, *nuclei* of suggestive thought can be permanently fixed, ideas of the beautiful entwining themselves with the very words of authors, studied mainly for the purpose of intellectual discipline—can it be denied that the teacher will thus have achieved a double triumph? And it is in this regard that I realize my peculiar obligation to Mr. Wines. To me certainly, his tuition touched nothing that it did not beautify, or which in beautifying it did not make a living, suggestive, and useful memory. Others may have sowed the seed, which, having produced their harvest, may have returned again in seed to the earth; he alone planted the evergreen.

If called upon to account for this peculiar result of Mr. Wines' tuition, I might be wholly at fault. Neither was I at the time the relation of preceptor and pupil existed between us, nor am I now, a competent judge of scholarship. I have had the pleasure of meeting Mr. Wines but once since, more than twenty years ago, when he bade me farewell at New Haven, upon my entrance into Yale College. But whether ascribable to profound scholarship, to extraordinary patience, or to a cordial sympathy with the young mind and heart, creating the mesmeric connection by which the orator, as well as the professor, engages, sways, and impresses his auditor—the effect bears absolute testimony to the possession by Mr. Wines, of the tact or talent (call it by what name you may) of the consummate teacher. Rare power! and invaluable as it is rare!

My vacations were spent with him either at Edgehill or in travel. During one of those vacations, at his suggestion, I studied the "*Ars Poetica*" of Horace, and my daily recitation to him, with his comments upon the poem, constituted one of the most pleasant of my pastimes. It would be impossible for me to place an estimate upon the profit which I derived from that labor, (if labor it can be called,) altogether voluntary upon both sides.

When traveling, it was my habit to keep a journal, and the same critical talent, the same appreciation of the beautiful which had disclosed the (to me) hidden charms of the classics, were ever active in pointing out whatever was worthy of note in the works of the more material and imitative arts. As Mr. Wines' image is identified with all of the authors, and books I studied under him, so it is inseparably associated with the places which we visited together. I never glance at the former, I never revisit the latter, without the thought of him—his genial smile, the gentle, persuasive intonation of his voice, never losing its kindly music, though explanation, pertinaciously called for, must have taxed the most patient of spirits.

It is often the chief reward which a faithful teacher receives in this world, to have a beautiful wreath placed around his modest brow by the

hands of illustrious men, who once sat at his feet, and who caught from him the first impulse in their splendid career.

During a portion of the time in which Dr. Wines held the position of principal of the Edgehill school, he edited a monthly journal of education, and employed his pen in furthering the great objects embraced within that comprehensive term. He also attended educational meetings and conventions in various parts of the state, where he earnestly sought to promote the same objects by addresses and discussions.

In 1837, when the convention for framing a new constitution for the state of Pennsylvania was in session at Harrisburg, he was invited by members of that body to deliver a lecture before them, when they were about to proceed to a discussion of the article in the constitution relating to common schools. This effort was well received by the members. It won high commendation from such gentlemen as John Sergeant, Stephen R. Burrows, Judge Woodworth, and Jos. R. Chandler. There is reason to believe that it was not without its influence in shaping the action of the convention in reference to the educational measures and interests of the commonwealth. This lecture was afterwards expanded into a 12mo. volume, and published in 1838 under the title of "*Hints on a System of Popular Education.*" The Legislatures of Pennsylvania and New Jersey ordered each several hundred copies of this work for distribution throughout their respective states. The same year he published another educational work, entitled "*How shall I govern my School.*" This volume was well received by the public, and especially by teachers. It passed through several editions.

In 1838 he was called to the chair of ancient languages, and also to that of mental, moral and political science, in the Central High School of Philadelphia, then about to go into operation. To aid in the organization of this new and important institution, he was commissioned and sent by the controllers of public schools to Boston, to visit the schools and examine into the educational system of that city. During the execution of this mission, he wrote a series of letters, descriptive of Boston and its environs, to the "*Philadelphia United States Gazette.*" Messrs. Little & Brown subsequently published these letters in a 12mo. volume, under the title of a "*Trip to Boston.*" The late Mr. Amos Lawrence purchased many hundreds of copies of this work for gratuitous distribution, esteeming it the best description of Boston ever published.

The following year, 1839, he published a small 16mo. volume, entitled "*Letters to School Children.*" This was adopted as a text-

book in some schools, and was used by several eminent teachers in Boston and elsewhere as a kind of syllabus of lectures to be delivered to their pupils. During the same year, Mr. Nathan Dunn having opened his magnificent collection of Chinese curiosities in Philadelphia, at his request, Dr. Wines prepared and published an 8vo. volume, entitled "*A Peep at China in Mr. Dunn's Chinese Collection.*" This book brought the author a highly complimentary letter from the Hon. Edward Everett.

During most of the time of his connection with the Central High School, the principal of it was Prof. Alexander Dallas Bache, LL. D., first president of Girard College, and now superintendent of the United States Coast Survey, who thus speaks of Dr. Wines' method of teaching:—

Mr. Wines presented in his teaching a remarkable illustration of the life-like inductive method, as distinguished from the mechanical or routine method. His modes reminded me of some of the best teachers of the German Eclectic School. To attend the recitation of a class under his instruction, was to see an illustration of some of the best principles of "pedagogy." The immediate subject of the lesson was subordinate to the great principles of training. The special knowledge to be acquired, was not the most important lesson of the day. His own mind working upon and through his subject, infused its life into the pupils in a degree varying of course with their mental powers. His varied resources for arousing and keeping alive the attention of the pupils, were felt without attracting attention to the machinery itself, by which the effect was produced. He had the power of presenting important principles in a simple but definitive form, and of interesting and enforcing by judicious illustration. His oral instruction was, in fact, a pattern in its way. The plain and forcible statement of the truths of morals which he presented in familiar lectures, impressed, while they interested, his pupils. His ideas belonged to the school of "education," the *drawing out* from the pupils mind rather than that of simple instruction, or the forcing in of knowledge.

It was while Dr. Wines was connected with the Philadelphia High School, that he prepared his first course of lectures on the laws of the ancient Hebrews. During the time he remained in that city, he delivered those lectures twice in Philadelphia and New York, and once in all the principal cities of the Atlantic Board between New York and Savannah, and always with the strongest expressions of approbation from some of the most gifted minds of the country.

In the year 1844, he opened a boarding-school near Burlington, New Jersey, called the Oakland School. This institution was highly successful, gathering large numbers of pupils from all parts of the United States, and some from the West India Islands. Rev. Shepard K. Kollock, D. D., thus gives his reminiscences and impressions of the Oakland school and its principal:—

It was in the year 1844, when I was pastor of the Presbyterian Church of Burlington, that Mr. E. C. Wines (now the Rev. Dr. Wines) established his academical institution at Oaklands, about two miles from the town. I had previously some knowledge of him as a man of high literary attainments, and of eminent

skill in the management of youth; but after his school was in operation among us, I formed with him an intimate acquaintance, and had an opportunity of seeing much of him in his professional duties. Without entering into any detail of his method of instruction or mode of government, I would observe that he seemed to possess all those qualifications which fitted him for presiding with success over a literary institution. In all his government he was discreet and judicious; he never lost his dignity in his intercourse with his pupils, and therefore secured their respect, veneration, and obedience. Yet, while he was always firm and decided, he was so gentle and affectionate in his social feelings, that he bound the members of the school so closely to him by the cords of love, that, while they revered him as a guide, they confided in him as a father. His was a rare combination of sweetness of temper with firmness of authority, of the amiable and the commanding. He entered with lively interest into the circumstances of his scholars, gave instruction according to their varied wants and talents, and performed the duties due to each with wonderful discrimination.

During the three years and a half in which he was engaged as principal of the Oakland school, he attended numerous educational conventions, and took a prominent part in their proceedings; delivering addresses and lectures, and every way striving to advance the cause of learning. Especially did he labor to rouse the public mind to the importance and value of normal schools, and to the necessity of raising teaching to the dignity of a learned profession; and to this end of preparing teachers for their business by a thorough course of professional training. A normal school has since been established by the state at Trenton; an institution to which the Hon. Edward Everett, after a careful inspection of it, gave the palm of excellence over all the institutions of the kind he had ever visited. We know it to be the opinion of the Hon. Richard S. Field of Princeton, a gentleman of the highest social and professional eminence, and who exerted a potential influence in getting the bill creating the school through the Legislature, that the efforts of Dr. Wines contributed materially to the formation of a sound public opinion which at length demanded a seminary of the kind, and rendered it safe and proper for the legislative authority of the state to call it into being. This is evident from the following paper prepared by Mr. Field himself, with a view to aid in the preparation of the present memoir:

I first became acquainted with Mr. Wines when he had charge of Edgehill school in Princeton, New Jersey. I had never met with any one who seemed to me more thoroughly to understand the true principles of education, or more successfully to apply them. Edgehill school while under his care, was one of the most admirably conducted institutions of the kind I have ever known.

In 1838 a movement was made in New Jersey, with a view to the improvement of the condition of our common schools which were then in a most deplorable state. A convention, composed of delegates from the different counties of the state, assembled at Trenton on the 16th of January, where spirit-stirring speeches were made, and strong resolutions* adopted, exposing the defects of the existing system, and urging the necessity of immediate reform. I was then a member of the house of assembly, and chairman of the committee on education, and the interest thus awakened in the subject, led to the passage of a law which, although

*These resolutions were drafted by Dr. Wines.

not every thing that was desired, was still a great advance in the cause of popular education. To this movement, attended with such important results, and out of which has grown our present school system, no one contributed more than Mr. Wines. He prepared a volume of some 250 pages, entitled "*Hints on Popular Education*," addressed to the late Professor Dod and myself, in which he urged with great force the importance of popular education—the duty of the state to provide for it—the branches of study proper for common schools, and above all, the absolute necessity of "seminaries for the education of teachers." This, I believe, was the first time that the establishment of normal schools was ever seriously proposed, or publicly advocated in New Jersey.

But this was a step quite in advance of public opinion at that time. The necessity for such institutions was not then perceived. Mr. Wines, however, did not lose sight of them; nor did he despair of living to see this crowning work in our system of common schools adopted in New Jersey.

In 1847, having removed to Burlington, we find him attending a convention of the friends of education in that county, called for the purpose of recommending to the Legislature the establishment of a state normal school. He was one of a committee, of which the late Senator Wall was chairman, appointed to draft resolutions and to prepare a report upon the subject to be submitted to an adjourned meeting of the convention. The task of preparing this report was assigned to him, and well did he discharge it. He addressed letters to various distinguished gentlemen in various parts of the country—among others to Edward Everett, Bishop Potter, William H. Seward, John A. Dix, Horace Mann, and D. P. Page, asking an expression of their views on the professional education and training of teachers. The answers to these letters and the report of the committee, were published in a pamphlet and circulated extensively throughout the state. Nowhere are the arguments in favor of normal schools more clearly and strongly put, or the objections which have been made to them, more triumphantly repelled than in this report. It was calculated to make a deep impression upon the Legislature and people of New Jersey. Doubtless it did make an impression, although its effect was not immediately perceptible. But the seed thus sown did not perish. It was destined in a few years to spring up, and to bear most abundantly.

On the 9th of February, 1855, the Legislature of New Jersey passed an act more munificent than any which Mr. Wines had ever dared to hope for, by which the sum of $10,000 a year was appropriated to the support of a state normal school, to be expended by a board of trustees, with no other limitation than that of "carrying out the purposes and designs of the act, in a manner worthy of the state of New Jersey." And the last time I had the pleasure of seeing Mr. Wines, was in the large hall of one of the noble buildings of that institution, attending a convention of the friends of normal schools from all parts of the United States.

The year 1849 was spent by Dr. Wines in re-writing his lectures on the Hebrew laws, and in delivering them in all the principal cities and towns of New England. During the same year, he sought and obtained license to preach the Gospel from the congregational association of Rhode Island, and thus at last fulfilled a wish and purpose which had been cherished even in college days. but which circumstances, not necessary to be detailed here, had prevented him from carrying out. In the year 1850, he was called to the Presbyterian church of East Hampton, Long Island, and having accepted the call, was duly installed as pastor. Here he wrote over for the fifth or sixth time his illustrations of the Hebrew laws, putting them now into the form of a treatise, and publishing the first volume (8vo.) under the title of "*Commentaries on the Laws of the Ancient Hebrews.*" Another volume still remains to be issued, which it is hoped

will ere long be ready for the press. This work has been honored with the highest eulogiums both in reviews and magazines, and from gentlemen of eminence in the legal as well as the clerical profession. The Hon. Horace Binney, of Philadelphia, among the ablest of living jurists, in a letter to the author, says:—

I have read a second time, and with renewed pleasure, the "*Commentaries on the Laws of the Ancient Hebrews;*" and I must add, that the work has been as productive of instruction and satisfaction to my family, as it has been to myself. I know of no book that is comparable to it, in point of information and attraction, on the subject of which it treats; and there is no subject that, in its three relations, historical, political, and religious, is of more importance and general interest. Of the learning exhibited in the work, I must leave others to speak; but the sources seem to have been faithfully explored, and as far as I have been able to follow them, candidly represented. The political parallel drawn between the government of the Hebrews and modern representative governments, our own especially, is new to me, and is exceedingly well put and well sustained; and if to its very pure style, I may add the conservative temper it manifests in regard to the republican features of our constitution, you will understand why the whole work has made so deep an impression upon me. I am very much obliged to you for it, as I think all the reading men in the country must feel themselves to be. I hope that the remaining books which are promised in the preliminary chapter, will not be long deferred, as my time is probably short, and my desire to profit by them very strong.

The first volume of this instructive and interesting work has already gone through four editions.

While engaged in this greatest of his literary efforts, and in the discharge of his pastoral duties, Dr. Wines was elected professor of ancient languages in Washington College, Pa., and left East Hampton in January, 1854, to enter upon his new field of labor.

The estimate in which the services of Dr. Wines in Washington College were held, may be seen in the fact that, on his resigning his professorship, the trustees of that institution spontaneously and unanimously conferred upon him the honary degree of Doctor of Laws; as well as from the following letter from the Rev. Richard Henry Lee, LL.D., Rector of the Episcopal Church in Washington:—

When Dr. Wines was elected professor of the ancient classic languages in Washington College, Pennsylvania, I was a professor in the same institution; and for three years, I served with him in the consultations of the faculty, and in the general labors of the College. It is needless to say, that we found Dr. Wines to be fully entitled to his high reputation as an accomplished scholar, and a faithful and skillful instructor, and a wise, practical assistant in the administration of the discipline and general affairs of a learned institution.

As a cordial and enlightened gentleman, a profound scholar and faithful instructor, as a learned and liberal divine and writer, Dr. Wines must be ranked among the eminent men of the day. His work on the Hebrew commonwealth will convey his name to posterity.

In connection with his professorship, he discharged the duties of pastor to a small country church, ten miles distant from the college. His relation to this people was an exceedingly happy one, and by the blessing

of God, abundantly fruitful. Four seasons of special religious awakening and revival, were experienced within the space of five years, during which nearly one hundred persons were added to the communion of the church. We had intended to say something special in relation to Dr. Wines as a preacher, but we find, in a communication which we hold in our hands, from Mr. David N. Lord, the learned and able editor of the "*Literary and Theological Journal*," so just a view of him in this respect, that we content ourselves with giving the communication entire, after placing upon it our fullest endorsement.

Dr. Wines' leading traits as a theological writer, are strength and clearness of intellect, carefulness of investigation, soundness of judgment, simplicity and force of logic, and earnestness. He studies his topics with unusual industry, impartiality, and good sense; never neglecting important sources of information, and never withheld by prepossession from discerning and receiving the truth, nor led away by specious show of popular novelties; and while upright and cautious, frank and independent in the avowal and advocacy of his convictions. In discussing the great themes of his commentaries on the laws of the ancient Hebrews, which demand high powers in the sphere of philosophy, logic and criticism, he takes an honorable rank among the eminent men who preceded him, in the mastery of his subject, comprehensiveness of views, sagacity in meeting objections, and skill in disembarrassing the truth from misrepresentation, and presenting it in attitudes that win the interest and assent of the reader. His other theological writings are marked by the same characteristics, sound and vigorous sense, clear apprehension and statements, direct and convincing reasoning, and earnest and impressive appeals. His style is simple, nervous, and argumentative, adorned here and there with natural and striking figures, and lighted up by apt and tasteful illustrations—his pages always leaving the impression that he is aware of the import of his words, and that they are the expression of his sincere and earnest convictions.

His manner in the pulpit is in harmony with these features of his mind. Slightly above the medium size, with an open countenance, a clear voice, and distinct enunciation, he is self-possessed, grave and emphatic in his utterance; engaging his audience in the didactic parts of his discourse by the clearness of his points and the ease and force of his reasoning, and rising in his exhortatory passages to solemnity and warmth.

In the fall of 1857 he received a unanimous invitation from the trustees of South Hanover College, Indiana, to the presidency of that institution. This position, however, he did not see his way clear to accept, especially against the earnest remonstrances of the friends and patrons of Washington College, and accordingly he declined it. Two years later, he was induced by a most urgent call of the board of trustees, to accept the presidency of the City University of St. Louis, a new institution founded by the presbyterians of the great western metropolis; and designed to rest upon the basis of a positive, evangelical christianity, to be conducted in accordance with its principles, and to be imbued and pervaded with its pure, lofty and regenerative spirit.

Such is an imperfect sketch of a laborious, useful, and honorable life.

II. MORAL EDUCATION.*

LECTURES ADDRESSED TO YOUNG TEACHERS.

BY WILLIAM RUSSELL,

Editor of the American Journal of Education (Boston,) 1826-29.

Introductory Observations.

Importance of the Study of Man's Moral Constitution.—The vital part of human culture is not that which makes man what he is intellectually, but that which makes him what he is in heart, life, and character. Intellectual cultivation, however, is a source of moral power to the individual, not merely in the mental aid which it enables him to render to others, but in that which it gives him for the understanding and government of himself. All intellectual training, therefore, is necessarily moral in its influence, so far as regards enlarged opportunity and power of intelligent, voluntary, and efficient action. It is only misguided ignorance, blinding prejudice, or perverted ingenuity, that would ignore or undo, in educational administration, the natural union of morality with intelligence.

A culture exclusively intellectual serves but to exhibit the skeleton of the mental frame, which moral influence is to furnish with the means and the power of action, and into which religious principle is to breathe the breath of life. But when moral culture assumes a separate and formal character, it ceases to be a living spiritual reality, and becomes but a mechanical routine of "the letter" which, we are told, "killeth." No reliance for effective moral influence on disposition or character, can be safely placed on mere didactic inculcation or catechetical instruction. The oracles of Divine truth tell us, that the highest moral training—the spiritual—does not separate "admonition" from "*nurture*"—the life-giving influence—but combines the two in the educational process of "bringing up." The true study of the human being, as a subject of meliorating culture, contemplates the child in the living unity of his whole nature. It regards him as an intelligent self-conscious, self-impelling, self-guiding, self-responsible agent, yet dependent on, and responsible to, the law of a higher power

* At the suggestion of Hon. Henry Barnard, the following series of lectures has been transcribed from the author's general course on Human Culture, originally addressed to the students of the Merrimack, (N. H.,) and New England, (Lancaster, Mass.,) Normal Institutes. A previous series on Intellectual Education, may be found by referring to Vols. II., III., and IV., of this Journal.

than his own, which has summed up and defined his individuality in a conscious will.

All careful investigation, however, in the mental, not less than in the physical world, implies an examination so close as to constitute a thorough analysis—not, in this instance, for the sake of a mere philosophic solution, but for the purpose of securing a true synthetic construction of life and character, by the better understanding, so obtained, of constituent elements and the influences which may best secure their living union and power. In every process of "instruction," (*inward building,*) the educator, whether parent or teacher, if he would work thoughtfully and successfully—if he would avoid laying upon the mental foundation of created capability a superstructure of "wood, hay, stubble," instead of the "gold, silver, and precious stones" of true worth and value—is in duty bound to see to it that he attentively observe, and carefully study, the nature and constitution of the being, whose fabric of character it is his office to aid in building up. The educator must, in a word, thoroughly understand and appreciate the elements of human character. These must be familiar to him in all their relations, and in all their varied workings, that he may understand more fully the means and sources of healthy action and healthful regimen, which it is his duty to prescribe.

True position of the Teacher as a Moral Educator.—Even to the youngest and least experienced of teachers, who wishes to acquit himself to the moral obligations under which he is professionally laid, equally to his pupils and himself, we would earnestly recommend not the practice of looking into some text-book of moral philosophy, for his own guidance, or for the instruction of his pupils, but—in the true spirit of an earnest, faithful, and intelligent instructor, who is aware that all he daily does or omits is a part of the effectual, living education of the subjects of his influence—the careful study and watchful observation of the moral indications and tendencies of his pupils, as intimating their capabilities and suggesting his measures and resources. It is his part to carry on, in successive stages, the sacred offices of parental love and wisdom, daily transferred to his charge, to be fulfilled in the sphere of the schoolroom, according to the measure of his judgment, his skill, and his benignity. But the proper home influence, though so often missing, is the true ideal of purpose, plan, and work, for the teacher; and, so far as regards moral results, in the schoolroom as at home, the appropriate influence must ever be that of an authoritative, affectionate, living, presence—not that of an inanimate book or a deadening routine.

No one doubts that, to become a skillful cultivator of the intel

lectual capabilities of his pupils, the instructor must understand the character and action of the intellectual faculties—not merely as these exist in the enumeration of particulars in a text-book of mental philosophy, but as they actually reveal themselves in the personal action and relations of the living pupil, in whatever concerns the use and exercise of his mind. The teacher must take the position not of a student of intellectual philosophy, ruminating in his study, but of a wakeful observer and inquirer into the phenomena of an actual, living specimen of the human mind, whose course is to be, in part, dependent on the fidelity of his observation, and the genial character of his influence. Our previous course of suggestions on the cultivation of the intellectual faculties, it will be recollected, assumed this ground as the appropriate and peculiar one of the teacher, and the only one on which he could justly be regarded as doing aright his professional work. The same ground we would claim for the teacher, when surveying the field of moral culture.

Arrangement of Topics.

Recapitulation of Method.—The plan which we propose to adopt in the following series of lectures, will still be, as in the former series, that which places the teacher as a responsible personal observer and reporter on phenomena and facts; watching and aiding the progress of human development. Our survey of the field of intellectual cultivation, as founded on the nature and constitution of the human being, presented, (1.) it will be recollected, *a given class of the mental powers and faculties*, themselves, as subjects of examination; (2.) *the actuating principle*, or moving spring, *of these powers;* (3.) *their* perceptible *natural tendency*, or course of action; (4.) *the results* of their action; and, (5.) *the educational processes* designed for their appropriate development.

Following this plan, we avoid all mere theoretic speculation, and stand on the sure ground of observed fact—the only point of view for the discovery and recognition of truth, or the direction and guidance of the teacher. We thus, moreover, place the work of education in the teacher's own hands, as a charge devolving on him, not merely professionally, but personally, and laying him under his just responsibility, as an agent for others, and as one intrusted, in the capacity of temporary guardian, with the dearest of all human interests, and the best of all hopes—hopes extending even to a never-dying life.

I. Classification of the Moral Capabilities.

Unity of Man's Moral Constitution.—Adopting the above method for our course of suggestions on moral education, we should proceed

to enumerate, as a class, the most prominent of the peculiar powers and faculties which constitute man a moral being, capable of moral influence, instruction, and development. But as every moral act involves the whole man—not merely the executive organ of muscle or nerve, intellect, heart or will, but all, in their living unity and active coöperation, we can not, as when examining the intellectual faculties, select any class or group of powers as exclusively constituting the moral capabilities of the human being. We must take into view his whole nature, comprehending, as it does, the vast range of his physical, intellectual, emotional, and voluntary attributes, in the personal constitution and organization of the individual.

1. Health *as an element of Moral Life.*—Man's moral condition, and his capability of moral development, depend, in no slight degree, on that intimate connection which the Creator has ordained between soul and body. As a necessary condition of the unity of man's complex nature, wholeness of being is essential to whole and true, that is, normal action, whether of body, or of mind, or of both. Physical disorder, by its reactionary character, disintegrates its subject as a moral agent, by withdrawing the executive organism from coöperation and consentaneous action, in subordination whether to the dictates of reason and conscience, the solicitations of feeling, or the normal activity of the will. Physical suffering, and its attendant involuntary irritation, are sufficient to overcast the clear healthy action of the judgment, to stifle the monitions of conscience, to change the natural current of affection, to generate angry passion, and propagate moral evil, to any extent—from the petty ebullitions of peevish temper, to the outbreaks of the fiercest anger, or of raving and furious insanity. Health, then, the educator must ever be careful to enumerate among the conditions of morality, whether the healthy state of the agent be owing to the normal sanity of mere bodily condition, or to that health of the higher nature, conscience, which, in man's fallen state, must so often be invoked, to rule the turbulent and rebellious tendencies of a morbid physical organization, and which, when enlightened, and strengthened, and purified, by supernal aid, is a surer reliance than the happiest condition of the best normal animal life.—To this branch of our subject we shall have occasion to refer more distinctly, under other heads, in the discussion of parental and educational influences.

2. Intellect, *and its culture, important elements of Moral Life.*—The vital fact of man's moral unity of constitution, involves the condition of his intellectual nature, as sound and true, or otherwise. The unhealthy condition of the bodily organism, is sufficient to subvert, as we have seen, the whole moral character of the human being,

in seasons of excessive morbid reaction. *Sanity and vigor of mind*, not less than health of body, and conditions of moral life and action; as is sadly manifest when we advert to those unhappy cases in which there has been an overthrow or obscuration of the god-like power of reason itself. Insanity, whether in the form of mental aberration or delusion, is competent not only to impair, but to obliterate, the distinctive mental and moral attributes of man.

The enlightened humanity of our day mitigates by genial, and sometimes, successful treatment, the sufferings of our nature, when reduced to such deplorable conditions; and its kind offices are crowned with yet more marked success, in its endeavors to raise the idiotic and the feeble minded to a comparatively healthy intellectual and moral level. It is one of the highest tributes paid to moral culture—we may observe in passing—that such replacements of depressed human nature are generally recognized as owing their success to the purely moral measures adopted in effecting them, whether in cases of insanity or of idiocy.

Culture essential to Intelligence, and therefore, to Moral Elevation.—Gross ignorance, and utter absence of mental culture, are proved to be, in general, fruitful sources of crime, and of moral evil in every shape. It is not enough that a sane mind and sound judgment be taken into the account, as, indispensable elements in the production of legitimate moral results in action and character. The intellect beclouded and darkened by ignorance and its attendant hosts of error and prejudice, or benumbed by neglect and disuse, is incapable of the clearness and activity which belong to the normal states and conditions of the human mind. A pure, intelligent, and loyal adherence to principle and to conscience, can not, in such circumstances, be expected to exist. The character indicated in sacred scripture, "a brutish man" who "doth not know," may not have chosen his condition; but, while in it, he is disqualified for every proper exercise of man's reflective and moral nature. The density of ignorance to which some classes of the population of European cities, and the majority of the slave population of our own country, are sunk, shows, in its deplorable depression, and its nearly hopeless extinction or absence of conscience, how important the daylight of knowledge is to a pure atmosphere in the human soul.

Evils of excessive Cultivation.—Morality necessarily implies a certain degree of intelligence and of culture. But, unhappily, there is, as is too plainly apparent in the forms of civilized and city life, a condition in which a moral inefficiency of mind is attributable not to the absence, but to the injudicious excess of cultivation; and the pale and emaciated features of school children and students, too

generally indicate the incompatibility of sedentary life and close, studious application, daily sustained, with a natural, healthy condition of body. The parental complaints against schools, as undermining the temper and vivacity of childhood, confirm the truth that the "much study" which "is a weariness of the flesh," impairs, also, the healthy vigor and freshness of the spirit.

Genial influence of appropriate early Culture.—Were early education what it should be, a course of invigorating, life-giving observation of nature and its products, and a succession of healthful, inspiring exercises, alternating with soothing relaxation and cheering recreation, and a strictly limited and very moderate exercise of pure intellection; culture and intelligence would cease to be, as now, too often purchased at the expense of a healthy tone of mind and habit. But, as we must recur to this branch of our subject when we come to the discussion of educational methods, we must leave it, for the present, with this postulate, that a sound, clear, vigorous, and well trained *understanding*, capable of correct and decisive *judgments*, is as important as the possession of *reason* itself, to constitute man a responsible, moral agent. In other words, that his *rational faculty* is a *moral power*.

3. Æsthetic Culture: *its Moral Influence on Imagination and Taste.*—Among the intellectual sources of moral life and power, a prominent place must ever be assigned by the judicious educator to the moulding and directing efficacy of imagination and taste. If these influential faculties are untrue or impure in their action and character, the tendency of the whole moral being is "only evil, and that continually." If they are sound, healthy, pure, and vigorous, they become sure safeguards, faithful guides, and genial companions of the youthful spirit. They, also, rise to the rank of powers in the moral domain of humanity.

Moral influence of the impressions of Sublimity and Beauty.—In that commingling of intuition, feeling, and imagination, and, sometimes, even of reflective judgment, by which the soul is at once overawed, and delighted, and exalted, in the contemplation of the vast, the sublime, the majestic in nature or in thought, or in that only less elevating influence which is inspired by the blending effects of greatness and grace in the grandeur of nature or of noble art, or even in that delighted and admiring love which is elicited by the presence of beauty in the myriad forms and hues with which the Creator has invested the living and ever-varying aspects of nature, which man delights to imitate in art;—in all these relations of mind is involved a moral element of power, by which man's nature is ennobled and purified, and prepared, as in the vestibule of a sanctu-

ary, for those yet higher and more effective influences which lift awe into adoration, and attract the soul to the beauty of holiness. Such at least, we know, is the natural tendency of unperverted mind, and the experience of every soul on which the true Light shineth.

The mind which, under the purifying influence of genial culture, enjoys the refining emotions and clear perceptions of a true "taste," (*relish,*) for those pursuits which lead to the admiring contemplation of nature, and to the practice of those arts which enable man to express his admiration of nature—possesses, in its love of the beautiful, a natural preparation for the reception of all those salutary impressions which, in a higher relation, are stamped upon the heart by the irresistible power of every trait of loveliness of disposition and character embodied in the daily beauty of a pure and amiable life.

The Graphic Arts which embody and repeat and perpetuate such impressions, are not to be overlooked in an enumeration of man's capabilities of refining and elevating culture, even in its strictly moral and spiritual relation. The dumb statue, by its perfect symmetry and grace, or its touching beauty, makes the heart eloquent inwardly with delight and love, with admiration, or with tenderness and sympathy. The portrait which recalls the image of the lost and lovely, the good and the true, the noble and the worthy, speaks most touchingly to us, from the spirit of the departed, in the language of the heart. The landscape which skillful art presents as a microcosm of glorious nature, conjured from dead, material means and implements, by a concentration of man's inventive genius and educated hand, deepens, at once, our love of this our earthly home of palatial grandeur and finished beauty, benignantly assigned us by the great Father, for our preparatory abode, and our admiration of the powers with which He has endowed the beings created in his image. The art which at once refines and elevates, does a noble preparatory work in rendering more vividly susceptible those faculties by which the soul, when awakened to the consciousness of its highest relations, is yet more effectually purified and ennobled.

But *Music*—that art which God has been pleased to consecrate for His own special service in the offices of human devotion, and which may be employed in the humble station of a peculiar minister to man's enjoyment, as a sentient being, capable of ever new and ever pure gratification from the concord of sweet sounds, is, in its influence on the soul, an element of singular moral efficacy, in its power to inspire with reverence, with joy, with ecstatic delight, to calm and soothe the agitated spirit, to touch the heart with sympathy for sorrow, or to mingle the humanizing emotions of brotherhood and companionship. Rightly cultivated and rightly practiced, it affects

with a pure and benign influence both mind and heart; and happily, of late years, has it taken its appropriate place in schools, among the effective means of moral culture not less than æsthetic.

It is no undue enlargement in the enumeration of the moral capabilities of humanity, to include within its sphere the whole range of those arts by which man's conceptions of grandeur and beauty are rendered more definite in themselves, and more effective in their influence on his character.

4. Sensibility, *as an element of Moral Life.*—In our preceding observations, we have adverted to health of body and mind, and to intellectual and æsthetic culture, as determining, in degree, man's moral capabilities; since a normal physical and intellectual state is the natural condition of normal moral action. Proceeding to the further consideration of the moral capacities and powers, the next element in our enumeration will be that *Sensibility* which, by Creative ordination, links man, by the sense of *pleasure* and *pain*, to the outward world, establishes a sentient world within himself, and gives birth to the vital elements of *love* and *aversion*, in all the varied forms of *appetite*, *instinct*, *desire*, *feeling*, *affection*, *passion*, and *emotion*, by which man is attracted or repelled, by which he is prompted to action and expression, and which consequently determine his *morality*, (*manner* of action.)

5. The Instinctive Tendencies, *as Moral Incitements.*—(1.) *Appetite*, the natural primal craving for satisfaction, which implies a sense of want and a desire of gratification, more or less definite according to the degree of intellectual development and definite consciousness, secures, by Divine appointment, the perpetual renovation of vigor, health, and life, of comfort and complacency. In the natural sympathy of mind and body, it tends, also, to generate the genial dispositions and emotions, and to diffuse the moral element of happiness. The intelligent educator recognizes it as a moral power, in its influence on habit and character. He well knows that, in its pure and healthy conditions, it is an effective promoter of serenity and tranquillity and cheerfulness, and favors the exercise of the benevolent affections; that, when neglected, it brings on an irritative reäction, too strong, if extreme, for the control of the guardian power of conscience; and that, when glutted by excess, it imbrutes the whole being, and leads to those degrading habits by which humanity is desecrated or ruined.

(2.) *The natural Love of Activity.*—One of the earliest manifestations of instinct is the restless desire of action, which is seen even in the involuntary and spontaneous motions of the muscular frame in infancy, in the insatiable thirst for exercise in childhood, in the irrepressible tendency of boyhood and youth to active exertion, in the

indefatigable industry of adult man; and not less in the instinctive craving for intellectual action, and the inextinguishable curiosity of the young mind, in the eager appetite for knowledge on all accessible subjects, and the earnest desire to investigate the problems of our being and destination, which impel the maturer mind, at every stage of life. The same desire of activity is marked in the child's natural craving for sympathy and affection, and in that desire for esteem and approbation which mark the dispositions of youth and manhood. All these impelling powers, as they tend to enlarge the sphere of life to the individual, and prompt him to fill it by corresponding exertion, become vital elements of moral life and character.

(3.) *The natural Aversion to Pain.*—This instinctive principle, which makes the sentient nature a provisional guardian of the safety and welfare of infancy, and, in degree, of humanity, throughout the course of life, operates, at first, with more obvious reference to the protection of organic life and health. But, as the mental powers progressively unfold themselves, and conscious sympathy becomes a source of pleasure or of pain, the instinct becomes a moral sentiment, and leads its subject to avoid whatever seems fitted to excite painful or disagreeable emotions in the consciousness of his fellow beings. It advances as self-consciousness becomes more fully developed, to that moral rank which places it in alliance with conscience, and warns us to shun the foreseen pain of evil doing, and the reproaches of that faithful monitor which Divine wisdom has implanted in the bosom of man to represent its own jurisdiction. It rises, at length, to that fear of God which deters from sin, under the dread of His sovereignty or the apprehension of his displeasure, and which, in its truest and most genial form of filial awe, forbids the very thought of offense. The power of this instinct is most impressively shown when, as in some deplorable instances, its first monitory warnings have been disregarded, and its terrific reäction drives reason from the throne of intellect, or haunts a death-bed with horrors.

(4.) *The desire of Enjoyment*—which, in infancy and childhood, tends to seek for gratification in the sphere of the sentient nature in its animal relations, rises to intellectual and moral action, with progressive development, in subsequent stages of life and character, till it becomes the conscious pursuit of even the highest happiness of humanity, exalts successively the aims and endeavors of man to his utmost elevation of moral action and character, and stamps itself as one of the most powerful agents in the advancement of his being.

(5.) *The desire of Power.*—No attribute of his nature more distinctly marks the character of man as a progressive being, than that love of power which actuates the very infant in his attempts to stand,

to walk, to speak, to put forth efforts of muscular force. The child, the boy, and the youth, all evince the activity of this principle, in the conscious ambition for progress and advancement by which they are impelled to earnest endeavor and arduous exertion, physical, intellectual, and moral. The sense of power is, in every stage of human life, one of the strongest feelings of pleasure of which man is conscious. In the maturity of his powers, it crowns his endeavors to explore the worlds of nature and of thought, to achieve the miracles of perfect art, to attain to positions of affluence or of rank, to enjoy, in whatever form, the splendor of greatness. It prompts man, at every stage of his being, from childhood onward, to aim at the relative manifestation of power which is exhibited in superiority over others, in the ability to control, direct, and sway the minds and actions of his fellow-men. This instinct of his nature becomes an element of immense productive force for evil, when perverted; although, when prompted by benevolence, and restrained by justice and rectitude, it has occasionally made men the benefactors of their race.

(6.) *The desire of Estimation.*—This principle which, in childhood, is manifested in the desire of love and approbation, becomes, in the adult, a love of esteem and respect, and, so far, is unquestionably a worthy motive power, and one which, subordinated to conscientious integrity and honor, elevates the character and prompts to benevolent action. When it degenerates to mere love of fame and applause, or sinks to the miserable desire for distinction or mere notoriety, its effects are, of course, as degrading as in its purer forms, it is ennobling. In any form, it is an element of peculiar power in man's moral constitution.

(7.) *The desire of Society.*—This principle man partakes with the gregarious races of animal life. It manifests itself in the clinging desire for sympathy and association, characteristic alike of infancy, childhood, and youth. It becomes, in manhood, the foundation of social and civil life, widens the sphere of the individual, and amplifies his being by the sympathy, the intelligence, the material and moral aid of a whole community of his fellow men. As an element of human progress and power, it ranks among the strongest and the most ample of man's moral resources.

(8.) *The desire of Freedom.*—In the stages of infancy and childhood, and of immature life generally, the instinctive desire to throw off restraint, and to enjoy liberty of action, is the natural expression of that native desire of development which impels the progressive human being in every direction that promises the pleasure of conscious effort and power. Partaking, however, of the partial blindness attributable to all forms of mere instinct, it needs the direction and

guidance of faculties higher than itself, to constitute it a uniformly safe element in activity. But as it is capable of employment in the service of man's best rights and interests, and, in that capacity, has achieved some of his noblest triumphs for intelligence, virtue, and happiness, it takes justly a high rank among his moral capabilities, as an indispensable condition of development and progress.

6. The Primary Emotions, *as Moral Powers.*—Sensibility, the susceptibility of feeling, the great source of moral life, presents its numerous family of emotions as constituent members of the group of moral powers and faculties by which man is rendered capable of meliorating culture and spiritual growth. Emotion, as the manifestation or expression of feeling and affection, is not merely the natural language of the heart, rendered visible or audible, but in virtue of the law of sympathy and mutual incitement, existing in the various faculties of the soul, it is itself a vital moral element reacting with a powerful augmenting force on the source whence it springs. As an inner movement of the soul rendered legible, it has, in many cases, become, by universal consent and usage, a synonym for the interior condition whence it originates, whether in the quiet moods of serenity or the turbulence of passion.

(1.) *Joy.*—One of the earliest feelings manifested by look and action, in the infant stage of life, is that joyous emotion which constitutes, so largely, the happiness of animal existence, in all its earlier conditions. The genial nature of this emotion is indicated in the intense gratification which it evidently yields to its immediate subject, and which, by the law of sympathy, it diffuses to all sentient natures within its sphere. From its lowest forms of serene *complacency*, to its more positively marked degrees of *animation* and *cheerfulness*, its higher expressions of *delight*, of *gladness*, and *hilarity*, or its more sedate and lasting satisfactions, in the mature sense of *happiness* which attends true enjoyment, its influence on life and health, on conscious feeling, on temper and disposition, on the whole intellectual and moral nature, is, in the highest degree, salutary; while undue devotion to its influence precludes the possibility of benefit from those deeper and more lasting pleasures which flow from serious thought and earnest purposes. Mirth, habitually indulged, leads to habitual levity and frivolity, and foregoes the distinctive dignity of man. The healthy and genial inspiration of joy, however, even intelligent educators are sometimes prone to forget, is, in all the relations of moral condition and moral cultivation, one of the strongest influences to which the young mind, by the law of its constitution, is peculiarly subjected as a vital element—the oxygen, of its spiritual atmosphere.

(2.) *Sorrow, grief, regret, repentence, remorse.*—These emotions,

diametrically opposed, in all their effects, to the genial influence of the preceding, are to be eschewed as permanent educational elements in any normal plan of early training; yet they have their salutary office in abnormal instances, in softening obdurate hearts, and subduing obstinate wills, or in awakening torpid and dormant intellects. Their office, in the business of education, is that of exceptional remedies for exceptional evils: they are punitive and reformatory in their character, rather than genial and preventive. They belong not to the primary stage of nurture, but rather to the secondary one of discipline. Still they are sometimes of the greatest value, when they spring from ingenuous feelings of regret for conscious error, or self-reprehension for conscious faults. It was once most happily said, "The tear of contrition serves to wash the mote of sin out of the eye." The hour of grief is that which enhances the value of consolation. The blameless sadness of the young heart calls for the gentle soothing of the voice of affection. Sorrow for deplorable losses blesses the voice which can say, in genuine sympathy and cheering kindness, "Let not your heart be troubled!" The moment of "the heaviness of the countenance" is sometimes that in which "the heart is made better," by detaching it from the burden of conscious evil, and preparing the will for the better course of a new life. In such circumstances, the judicious aid of the attentive educator may assist in the inauguration of a new moral era in the personal history of the pupil. Even the rougher and severer discipline of repentance and remorse becomes, to the hardened adult, a minister of mercy, when it wrenches the sinner from the thraldom of evil habit, and sets him free from the "bondage of iniquity."

The moral power of this whole class of emotions—from the unaccountable cloud of depression which sometimes steals over the sunshine of the young heart, to the deepest plunge into the darkness of remorse—is peculiarly marked for its efficacy in the renovation of feeling, and even of disposition and character. In the sphere of the family and the school, it sometimes marks the record of the day's history with the beginning of a salutary reformation of temper and deportment. But, in the imperfections of human management, it sometimes is permitted to mark the commencement of a reäctive sense of wrong, when the feeling is unjustly caused by arbitrary or erring authority. It then becomes a power for lasting evil.

(3.) *Timidity, fear, terror.*—Like the natural aversion to pain, these instinctive emotions, which are so easily excited in childhood, bespeak the guardian care of the Creator, in his gracious provision against danger, and consequent destruction to the organic frame, or to the mental constitution. They are the swift preventives of evil,

the safeguards of humanity in peril. But the vividness of childhood's emotions needs the aid of the guardian auspices of education to prevent a salutary instinct from degenerating into unreasoning excess, and to protect the mental and moral nature from the paralyzing effect, which, in unhappy instances, has extended to the overthrow of reason itself. The timidity of childhood may, if not watched over, become habitual self-distrust, embarrassment, confusion of thought, or even moral cowardice. Wisely guarded, it may be converted into a protection from rashness, presumption, and foolhardiness. Fear may be sometimes needed as a restraining influence on forwardness and impudence, or as a check upon daring hardihood, in resistance to authority. But its influence is unfriendly to the healthy development of disposition and character. It never rises to the dignity of an aid to the development of principle. It may aid in producing a vivid apprehension of coercive and compulsory measures, and so lead to obviate their necessity. But its low rank among instincts, its semi-brutal character, at best, place it among the motives which a generous educator would ever despise. If called in, for a moment, to quell resistance to authority, it yet can never attain to the dignity of a genuine moral influence. Expediency may sometimes sanction the appeal to its effect, as a matter of necessity. But, if admitted at all into the circle of moral relations, it can not be ranked higher than among the abnormal. As for its extreme form, terror—humanity, at the present day, forbids any resort to it, as a moral expedient. The peril of insanity lies too close at hand to permit any human being to adopt it, even as a means of deterring from evil. Its only salutary use is its instinctive office to prompt the instant flight from peril to life itself. So, and so only, does it prove a benefit.

(4.) *Indignation as a moral sentiment.*—The intelligent moral instructor will, of course, carefully guard his pupils from confounding this principle with the mere animal emotion or passion of anger. Anger is the mere personal reäction of maddened feeling and blinded reason, which man is capable of in common with the brutes, and which vents itself in violence on the agent of injury. Indignation is that impersonal sentiment which regards not the agent but the act, which makes the young heart glow at the sense of wrong, when the teacher is relating an instance of oppression or cruelty, which occurred, perhaps, ages ago, and in some distant land. This species of resentment is a purely mental thing, a salutary and ennobling emotion of reäctive sympathy, which belongs to man as a being consciously endowed with free agency, and equally abhorring a condition of unjust subjection, and the oppression which causes it—

as a being instinctively impelled to oppose and overthrow every palpable form of evil which besets the condition of humanity. Indignation has inspired many of those peaceful revolutions which have renovated the social and moral condition of communities, more frequently than it has originated those bloody revolutions which have sometimes been the birth-throes of national life and liberty.

(5.) *Wonder.*—Among the first indications of mental life, in childhood, is the emotion of wonder, which, at that stage of human progress, is so often called forth by the novelties of observation and experience. The freshness of feeling which it indicates, and the manifest delight attending it, show plainly its power as an element of mental life and moral activity. This emotion, judiciously evoked and skillfully cherished by the watchful educator, becomes not only a genial and a powerful incentive to intellectual exertion, but the tribute of the young heart on the altar of the yet "unknown God," who is waiting to be, in due season, revealed to intelligent faith. The wonder which the novelty of all created things raises in the dawning consciousness of childhood, is the preparatory stage of the intelligence and reverence which are afterward to blend in the soul, as it rises to the recognition of the Author of life and the Giver of its law of duty.

(6.) *Awe.*—This emotion transcends that of mere wonder, and thrills the soul with a profounder sense of power, whether exhibited in the tremendous forces of nature, in its astounding aspects of elemental commotion, as in the heaving fire of the volcano, the dashing billows of ocean, the rush of the cataract, the blinding flash of the lightning, the roar of the thunder, or the fury of the tornado, or in the calmer majesty of mountain forms, the overwhelming vastness of impenetrable forests, or the immeasurable depths of space. As a moral inspiration, it aids the feeble faculties of man in his attempts to dwell upon the conception of almighty power and eternal duration; and while he must ever sink consciously baffled in all his attempts to comprehend Him "whose greatness is unsearchable, and whose ways are past finding out," yet he never feels more vividly the greatness of his own nature, limited though it is, than when losing his human littleness in the contemplation of the great and marvellous works which bespeak the majesty of Him who is "the same yesterday, to-day, and forever."

This overwhelming and yet ennobling emotion, education has it for one of its special offices to deepen and expand by all the aids which nature and science furnish to the inquiring mind of man. Its influence is doubly salutary, as it prostrates the human being in

conscious insignificence before his Creator, and, at the same time, exalts Him who is the "Majesty of heaven and earth."

(7.) *Hope.*—As an intelligent inspiration, of intellect, heart, and will, in activity connected with the sense of duty, hope, the expectation of success, becomes an element of high moral value and power. It is congenial with the conscious happiness of being which naturally belongs to the joyous associations of early childhood, and, indeed, of young life in all its various stages. It inspires and sustains the aspirations of boyhood and youth, and invigorates the exertions of manhood. It is a silent tribute from the heart of man to Divine benignity; and when elevated and hallowed by faith, it rejoices in the anticipation of a future life of perfect felicity. Its rank, and its efficacy as a moral influence, constitute it one of the highest powers by which man's moral nature is actuated.

7. The Benignant Affections, *as elements of moral life and power.*—(1.) *Love.*—By the great pervading attribute of sensibility, inherent in his constitution, man learns to feel his condition before he knows it, and to sympathize with his fellow-beings before he is capable of understanding them. The law of *Sympathy*, written on his whole nature, as a primary element of his being, which ultimately developed into every form of social and benevolent feeling, brings him, unconsciously, at first, under the dominion of the paramount law of *Love*, which attracts him toward his fellow-beings by a genial and kindly influence which he delights to feel, and which, as his conscious intelligence gradually unfolds itself, he learns to understand as mutual and reciprocal. This mysterious power ties the heart of the infant to that of the mother, and that of the mother to the infant with an affection stronger than life. In the little community of home, it links the souls of brothers and sisters in fraternal union of affection. It is the sacred law of parental and filial duty, and moves the whole moral machinery of human life in its hallowed and blessed sphere of privacy.

There virtue has its purest forms and dearest aspects, its genuine, spontaneous amenities; and though unknown beyond its own quiet sphere, has its own unseen record of generous self-sacrifice, and of fortitude more than heroic. Among the noblest motive powers of moral action, the affections of home are those to which the enlightened educator will ever assign the highest place, as regards the capabilities of the human heart for living development.

(2.) *Gratitude.*—This peculiar benignant reäction of love, in view of favor or kindness experienced, mingles largely with the exercise of filial and fraternal affection, and enters into every emotion called forth by the consciousness of benefit conferred, in whatever degree—from

the ordinary acts of human kindness and courtesy, to those greater expressions of benevolence, which bestow safety or comfort and happiness, in valuable and lasting forms of beneficent action. This generous emotion is not always accompanied with the satisfaction of being able to remunerate a benefactor by any adequate return. The service or the favor which calls it forth, is sometimes greater than language or action, or any form of external expression, can equal. It may be sometimes so great as to prompt the devotion of a whole life to the friend or benefactor toward whom it is directed. Such is true filial attachment. Such is man's position toward his Creator.

The promptings of this generous emotion lead, sometimes, to the noblest manifestations of true sensibility and self-renouncing devotion. Some of the brightest passages on the page of history are those which record the heroic actions to which this feeling has given birth.

In the relations of education, its influence on the ingenuous mind and heart of youth, forms one of the most sacred attachments of human life. A grateful feeling of returning love for the guardian mental care which, in our early years, watched over, and served to form and mould within us, the ideal image of excellence at which we were taught to aspire, the filial reverence which the heart, in such circumstances, so gladly pays as a tribute to wisdom and worth, insure the inspiration of the noblest aims in all subsequent life, to the heart which is conscious of them.

8. The Generous Affections, *as Moral Powers.*—(1.) *Friendship.*—The cordialities of disinterested friendship, and the mutual good offices of human kindness and reciprocal obligation are but expansions of fraternal feeling from the primary sphere of home; and their efficacy in promoting human well-being, on a broad scale, render them powerful instruments of good, as well as rich elements of moral life in the heart.

(2.) *Patriotism.*—On a yet wider field, patriotic attachment and principle, as they cherish the generous spirit of self-devotion, give ample scope for the cultivation of the virtues which adorn and dignify human life. The noblest pages of history are those which exhibit the magnanimity of genuine patriotism. As a feeling of the heart, or a principle of duty, this sentiment possesses peculiar power in inspiring man to noble deeds; and as a spring of development to personal character, it must ever rank high among the moral capabilities of man.

(3.) *Philanthropy.*—The expansive feeling which embraces the whole human family in the wide open arms of brotherhood, is a virtue yet more disinterested, and more true to God and man, than even the truest and the warmest patriotism. It is eminently the Christian's

virtue, so far as he is true to the teachings and example of Him who came to proclaim "good will to men," and charged his followers with a message of love to "the whole world." The history of genuine Christianity is chiefly the record of those who went forth on this errand, "with their life in their hand," and who were ever cheerfully ready to deposit it in pledge of their devotion to the well-being of "Barbarian, Scythian, bond, or free."

Among the powers which characterize man as a moral being capable of culture, and of advancement in the scale of excellence, no trait of disposition gives larger promise than this; and on none does humanizing culture produce larger effects.

(4.) *Humanity toward Animal Nature.*—As the offspring of Divine love, the human spirit, though its lustre has been dimmed by the breath of sin, yet retains something of the characteristic benignity of its Source; and the range of its benevolent sympathy is not limited to the circle of its fellow beings, but flows forth, if not unnaturally diverted from its channel, to the wider sphere of universal being. In its relation even to the humbler races of the creation, which have been subjected to its dominion, by the appointed gradations in the scale of life, it manifests itself capable of a beneficence for which the designation of "*humanity*" has been suggestively chosen.

The universal law of Love, if obeyed, expands and elevates the soul of man to that moral comprehensiveness of being which ranks him "but little lower than the angels;" and while he is thus permitted to see "all earthly things put under his feet," his crown of royalty is indeed one of "glory and honor," because it invests him with the conscious responsibility of an intelligent and moral sovereign. This true majesty of man is the source at once of his just self-respect, and of some of his noblest regal attributes and virtues, to cherish and confirm which is among the special offices of appropriate human culture.

9. Religious Principle, *as a Moral Power.*—(1.) *Reverence.*—The feeling of which the young mind is conscious, as one of the dawning intimations of the development of its own reflective powers, when contemplating the dignity, the authority, the wisdom, and the benignity of the parental character on which it consciously depends for being and happiness—is although not yet fully or distinctly developed to its own consciousness, one of the profoundest emotions of which it is susceptible; and to the unperverted heart it is one of the strongest cords of sacred obligation by which it is bound to all filial duty.

The emotion thus experienced is naturally transferred, by the mind's law of association to all forms of venerable human worth and dignity. It is called forth by the wisdom of age, by nobility of charac-

ter in exalted station, and, in degree, by all authority justly exercised. It marks alike, in such circumstances, the deportment of ingenuous youth and of true manliness. Its indications in the intercourse of life are the assurance of that susceptibility by which judicious cultivation, and the inspiration of a genuine faith, are enabled to lift the human soul in reverence to the Father of spirits, and to create a sacred regard for all that Divine truth reveals as duty. Its value as an element in moral cultivation, is beyond expression, great, as regards its influence, whether in securing the respect and obedience due to parents and teachers, to seniority in years, and to eminence in attainments, or in conferring on education itself, its true character as a sacred relation in the business and duties of life, and as a connecting link in the chain which gives unity to man's being in its extension to a higher sphere of mental and spiritual existence.

(2.) *Faith.*—Another element of the highest power in moral relations is the Faith which believes and trusts, and thus unites man to his fellow man, and man to the Author of his being. A great writer has denominated this principle as that "which holds the moral elements of the world together." Without it, man is an isolated, helpless, hopeless outcast, wandering on the shores of being without aim and without direction, ready to be "swallowed up and lost," at the end of his brief career of earthly life.

Faith is the source and spring of all moral life, and, as a capability in the relations of culture, its productive power is comparatively inexhaustible, or limited only by the measure of endeavor. It lifts man above himself, and supplies him with a power beyond his own. It gives the parent and the teacher an influence nearly unbounded. In its highest form, it solves, with light from above, the great Christian paradox, "When I am weak, then am I strong."

(3.) *Conscience.*—The primordial moral element which holds sway over all man's powers and faculties, is Conscience. This great regulator of the springs of action no competent educator can ever permit himself to regard in the merely popular light of a reporter and penal officer, following the acts of which it takes cognizance only after they have been committed, or irretrievably determined. As the sense of duty, it presides over the whole mental being. As an intelligent agent, it partakes in the work of consciousness and reason. It knows and judges. It remembers, indeed, with fearful exactness, the deeds of the past. But it has also the eyes of intuition and of inference for the present, and the power of prospection, prediction, and suggestion for the future. In feeling—unless blunted or extinguished—it is sensitive, to the utmost degree of acuteness; and it pierces to the very "joints and marrow" of the moral organ-

ism. Its cautery is terrible in its unsparing intensity. By Creative ordination it is paramount to the will. It prompts, and threatens, and remonstrates, and commands, and forbids, and impels or deters, with absolute authority;—irresponsible to any higher power within the whole domain of humanity, and acknowledging none without, but the one supreme authority of God and duty.

As an intelligent sentiment, and determining principle, it sums up man's moral capacities and powers in their whole extent of life and action. It constitutes him what he is in the sight of God, and in his own consciousness—a responsible moral agent, whose motto, written on his inmost being, is "*Be perfect.*"

Under the prompting influence of conscience, as the law of duty, appointed by the supreme lawgiver, a devout regard to His authority, and a grateful sense of His benignant care, the young mind, enlightened by the teachings of "the wisdom which cometh from above," is betimes elevated to that *piety* toward the Father of all, which raises the personal worth and virtues of the human being, in his aspirations, to the height of sanctity, carries up all questions of moral action to the highest of all tribunals, and breathes into all his endeavors of duty the inspiring breath of a spiritual life and a divine power. Most justly did the fathers of New England require of the teacher of youth that he should regard himself as specially set apart for the "nurturing" of childhood in "piety," as the security for all those virtues which insure the safety of a community and are the adornment of humanity.

10. The Will, *as a Moral Power.*—Man's ability to determine the moral course of his actions, to choose the right and avoid the wrong, can never be made clearer to himself by the light of "science falsely so called," than it is in his own inmost convictions. It never is obscured to his consciousness till, wandering from his limited sphere of possible conception, he bedims it by some cloud of metaphysical speculation, and perplexing casuistry—"darkening counsel" by "skeptical doubts" and "words without knowledge." Conscience, the only competent court, adjudges him free, innocent or guilty, commendable or culpable, in every act within the limits of his power, yet—for that very reason, not independent of the authority which pronounces sentence on his actions, and which involves the existence of an authority higher than itself, to which he is strictly responsible, here and hereafter, though at liberty now to follow the bent of his individual will. To the doings of this determining and executive power, which directs and moves the arm, whether it is stretched forth to succor or to kill, attaches, then, a moral character of fearful power; and to influence it for good, and not for evil, to guide it in the path

of rectitude and benevolence, is the appropriate work of education, as the guardian of human welfare.

11. The Practical Virtues, *as Moral Powers.*—High among these attributes stands *Rectitude*—that power of self-adjustment by which man corresponds to the dictates of conscience, as the sense of right, which keeps him true to his position in the moral universe—true in thought, word, and deed, to the posture in which his Creator placed him when He "made man upright." This principle confers on the human being that noble power of self-poise, which bespeaks his dignity, as a free agent, endowed with the ability, to maintain his moral identity and stability, amid all the fluctuations of circumstance, or the plausible solicitations of evil. It tends to render him sacredly regardful of *truth* in all his communications with his fellow-beings, and of *equity* and *justice* in all his transactions. It stamps his character with *integrity* and *honor*, in every station of power—with *fidelity*, *honesty*, and *punctuality* in the discharge of every obligation of duty. Truthfulness, is, in a word, the one sure and firm foundation of every personal virtue, and the only ground of reliance between man and man. Without the security which it affords, the whole fabric of human society would be but a hollow structure of falsehood and hypocrisy, and life but a degrading scene of deceit, imposition, and intrigue, issuing in universal corruption and misery.

A sacred regard to truth, in all its relations of communication, whether in expression or action, while it is an element so indispensable to the existence of human virtue, in any form, is one which more than most others, is a growth of culture in the soul, and peculiarly needs the genial guardianship of watchful care, mature wisdom, and consummate skill, on the part of the cultivator. The fertile imagination and artistic fancy of childhood, are prone to create a world of unreality around the unconscious spirit, in its immaturity of knowledge and experience; and a guiding mind is ever needed to lead it onward to a distinct perception of the sacred beauty which invests the simplicity and severity of truth, and which renders any conscious violation of it a desecration. The force of truthfulness, as a moral principle, when so directed and matured, is seen in that loyal and devoted adherence to its dictates, which is exhibited in the constancy and genuine heroism of the martyr. In his estimation, it is held dearer than life, no intensity of pain or suffering has the power to wrest it from him.

12. The Humane and Gentle Virtues, *as Moral Powers.*—Under this designation may be properly included those traits of disposition and character which soften the heart of man to his fellow man—

the *sympathy* which is not a mere passive condition of feeling or organic susceptibility, but a living, active participation in the emotions evinced by our fellow creatures; leading us to *rejoice* in the happiness of others, to *compassionate* them in conditions of want and distress, to *commiserate* sorrow and suffering, in every form—ignorance, error, degradation, vice, and every pressure of evil which afflicts or depresses humanity;—to cherish the catholic spirit of universal *charity*, *tolerance* for the sentiments which differ from our own, uniform *tenderness* toward woman and childhood, *calmness* under irritating treatment, *meekness* under a sense of wrong, *quietness* and *mildness* with the violent, *patience* and *forbearance* with waywardness and opposition and injury, *pity* for the erring, *mercy* for the evil-doer. All these god-like traits of disposition are the features which characterize the peculiar spirit of true Christian culture; none of them the mere fortuitous products of a happy constitution of body or of mind, but all earned by ceaseless watchfulness, and diligent endeavor, and, sometimes, by arduous struggles, and none of them perfected without aid from on high.

13. Personal Qualities, *in their Moral Influence: The Self-asserting and Self-sustaining Virtues of the Individual Man.*—(1.) *Self-respect.*—As a being created in the high sphere of intelligent and moral existence, and possessed of an immortal nature, man enjoys, in a just self-respect, a security against degradation by any influence which he feels to be unworthy of the rank assigned him in the universe. Consciously noble in origin and destination, he tends, if not perverted or degraded by habit, to noble action; and if, in the plenitude of Divine favor, he is consciously recovered from a fallen condition, he feels it his immunity, as "a new creature," to have been liberated from a state of bondage—set free for the enjoyment of a "glorious liberty," and impelled to run a new and noble career. Respect for his own nature and personal condition—when kept pure from the senseless interminglings of pride, or haughtiness, or arrogance, of overweening self-esteem, or exclusive self-regard—insures to man the proper dignity of his being, and tends to elevate all his aims and actions. It is an element of high moral power; and the judicious cultivation of its influence is a prominent duty of all whose office, as educators, constitutes them the guardians of humanity.

(2.) *Ambition.*—Feeling the nobility of his nature, man, when not hopelessly degraded, instinctively seeks to act in harmony with his conscious position, and, under the influence of ambition, to aspire after advancement, in every stage and relation of his life. This desire may, it is true, be suffered to center on merely selfish purposes—on the personal aggrandizement of an individual, to the exclusion or depression

of others, and to the violation of their rights. In such cases, it sinks to the level of that brutal greed which prompts one of the inferior animals to usurp the better place at the trough, and monopolize its advantages, to the exclusion of the weaker members of the herd.

But the desire of advancement, as that of progress and attainment, is utterly free from all considerations of relative superiority or advantage. It is obedience to an ennobling instinct, pure in its character, and beneficial in its results, not merely to the individual whom it elevates, but to all whom it enables him to aid from the higher sphere of ability to which he has been raised. To the student it is a most powerful incitement to application and exertion; and in the relations of moral attainment, its influence is a salutary inspiration of the highest order. It is not incompatible with the purest spirit of benevolence, in the largeness of the plans on which it delights to work, and the inestimable value of the benefits which it delights to bestow. It urges the Christian aspirant to "press toward the mark," "for the prize of his high calling," and incites him by the promise of a "crown of life."

(3.) *Magnanimity.*—Ambition naturally tends to generate another personal quality of noble character and influence—that magnanimity which lifts man above the littleness that would limit the scope of life, and fritter away its purposes in paltry pursuits, in trivial employments, or low gratifications, in snatching at mean advantages, or mingling in petty strifes. This ennobling virtue incites its possessor to high aims in all his plans and purposes, and to an utter disregard of meanness in motive or action, as manifested by others toward himself. It overlooks malice and injury, or forgives their results. It disdains revenge. It is a sure preventive of that sordid narrowness of soul which induces man to drudge, throughout life, for the mere purpose of accumulating wealth, or to practice the degrading shifts of a niggardly parsimony in expenditure, through fear of diminishing his hoards. A magnanimous spirit scorns the selfish littleness which thus wraps the individual in himself, and shuts the door of his heart against the natural claims of human brotherhood. It gives a generous breadth to measures of usefulness and benevolence, and raises human activity to a higher sphere and ampler scope in all directions.

(4.) *Resolution.*—This attribute, so important in all the practical relations of life, implies the clearness of perception and readiness of judgment in consequence of which the will is empowered instantaneously to decide the course of action. Hence the certainty and the swiftness with which execution follows purpose, the invaluable habit of promptness and dispatch in business, and of punctuality and efficiency in performance, as contrasted with the lagging irresolution, and

halting, unavailing endeavor, which invariably issue in failure and disappointment.

The power of energetic and decisive resolve determines, at once, the practical value of an individual, and the reliance which may be placed on him by others. It determines, in fact, the mental health and moral life of the man, the efficacy of his action, and the estimation of his character.

Many constitutions are so formed that even this trait of mental freshness and vigor, so natural to early life, in general, needs diligent cultivation to secure its due development in particular cases. The dreamy indolence, the languid inactivity, the tendency to aimless reverie and absence of mind, which proceed from organic feebleness, wear the same aspect with the profound abstraction of deep and earnest thought, and thus excite, perhaps, in the mind of the parent or the teacher, the expectation of the fruits of close thinking and severe application—an expectation sure to be disappointed. The irresolute youth is prone to sink into habitual vacancy of mind, indecision of purpose, vacillation and feebleness of judgment, sluggishness and utter inefficiency of will.

(5.) *Courage.*—A kindred quality of soul to power and promptness of resolution, is that genuine courage which man, as a self-reliant and independent agent, is naturally called to exert; and which, as a being of conscious energy and power, by his very constitution, is one of the primary instincts of his nature. It enables him to assert his place in the creation, as an agent intrusted with dominion, to a vast extent, over nature and circumstance, and destined to a high position by the exercise of his peculiar endowments. It protects him, at the same time, from any undue ascendency usurped over him by a fellow-man. It prompts him to oppose and resist every encroachment on his rights, and to imperil life itself in defense of his natural liberty of action. It nerves him to encounter danger, to triumph over obstacles, and to master difficulties. It lightens toil, and facilitates attainment.—It gives to the energies of individual mind and will the comparative force of numbers. It enables man to achieve miracles of physical strength and moral power, not merely on the field of conflict, or under the gaze of admiration, but in the solitary grapple with physical obstacles, and the daring, unassisted encounter with the fury of the elements, when the lone adventurer hazards life on some far errand of scientific or humane exploration. In its higher relations, as a moral attribute, it inspires the individual to attack usurping or even approaching evil, in its most formidable shapes, and to encounter fearlessly opposition and opprobrium, and death itself, in the cause of truth and duty.

Courage may, it is true, degenerate into inconsiderate rashness or fool-hardy temerity, and prove itself but a blind animal impulse. It is the office of education to enlighten and elevate it, and render it a ministering spirit of good to humanity, inspiring it with intelligence, and hallowing it with the sanctity of benevolence; so that it may become worthy to fulfill its highest offices, and lead the van in noble endeavor for the advancement of human well being. Its moral power and value then become incalculable; and to cherish it is a peculiar duty of the educator.

(6.) *Fortitude.*—A virtue yet higher than even the noblest form of courage, is that *Firmness* to sustain, to bear, to withstand, to endure, or to resist every pressure of pain and of suffering which inevitable evil may call him to meet and to undergo. Along with this upholding power usually comes the *equanimity* which preserves from extremes of elation or depression, and maintains the moral identity of the individual, the *patience* which soothes and tranquilizes, and coöperating with the enduring firmness of its kindred virtue, contributes to that calm *self-possession* which leaves man master of himself, and equal, in his native greatness and acquired abilities, to resist the assaults of evil, and bear the double pressure of toil and pain with unshaken firmness.

These arduous virtues are, in no sense, innate, or constitutional merely: they are the fruits of diligent and persevering culture—the attainments of the trained and practiced spirit. They owe their power to that self-education which, although it may be wisely anticipated, must ever, in substance, be purchased at the peculiar price of personal experience and strenuous endeavor.

(7.) *Perseverance.*—Another quality of high rank as a moral power, and closely allied to the preceding group, is the persistent firmness of purpose which follows so worthily in the track of dauntless courage, and enables man, with the aid of time, to accomplish, in life-long battles with external nature, those wonders of triumphant human energy which inspire successive generations of the human race with mingled admiration and awe. It is the same trait of persistent resolution that has enabled communities to struggle, for successive years, for a foothold among the family of nations, and to endure, to the verge of extinction, for independence. The same element sustains the explorer of nature, in his years of solitary exposure and unmitigated hardship, through toil, and sickness, and peril. The same sustaining power cheers the secluded student onward through his labyrinths of exhausting investigation, pursued year after year, without aid or sympathy, yet never abandoned till some glorious discovery, duly verified, crowns his devoted loyalty to science. Indefatigable perseverance, in the

face of opposition and accumulated difficulty, has been the condition of success in many a noble effort of philanthropy, in its devoted endeavors to alleviate the miseries of suffering humanity, by meliorating its outward conditions, enlightening its mental darkness, or inspiring it with the elements of a new moral and spiritual life.

Without the sustaining power of this attribute, no undertaking of moment has ever succeeded, in the experience of individuals or of communities. Yet it is a quality in which the young mind, in its eager desire of novelty, and its need of alternations of activity, is more deficient than it is in that which prompts to the most arduous attempts or heroic efforts. The vigor which manifests itself in firm adherence to plan or purpose, is usually acquired by degrees, under skillful training. But, when attained, it stamps the seal of certainty on whatever human endeavor is competent to effect.

(8.) *Self-government.*—This invaluable trait of cultivated character implies, in the individual who possesses it, the skill and the mastery acquired in the training schools of conscience, magnanimity, resolution, courage, patience, fortitude, and perseverance. It implies all these qualities turned inward for the control of self. Destitute of self-command, man, when brought to the test, is but as the infant, or the lower animal—the mere victim of passion and impulse. The main moral element of character, is, in such cases, wanting; and the individual sinks in the scale of being, not only in its moral, but its mental relations. The exigencies of life which try men's souls, and demand the perfect action of all their faculties, exhibit the inexpressible value of this trait of mental and moral power, by which man is enabled to call into activity the nobler elements of his being, and, by their authoritative mandate, control and restrain every lower tendency of his nature. He thus reigns in moral sovereignty over himself, and reveals the true majesty of manhood; while, in loyal subordination to Divine law, he manifests, not less impressively, the moral beauty of the spirit of filial obedience.

The power of *self-direction* and *self-guidance*, which that of self-government implies, enables man, as an intellectual agent, to concentrate the activity of his whole mental being, on whatever solicits his thoughtful attention, or tends to promote or enlarge his intelligence. In the moral relations of his being, it secures him against the allurements of evil, the eruptions of passion, the wreck of his peace of mind, or the moral ruin of degrading habits.

Education, in its common forms, it is true, can do little by mere external precautions, admonitions, or promptings, to confer the personal happiness which it is the peculiar office of self-government to bestow. Self-intelligence, self-experience, and self-culture, and the sanctity of

religious principle, are, in this relation, the only sure reliance for human virtue. But when thus grounded and rooted, it becomes the firmest security for every trait of excellence.

(9.) *Self-reliance* is the moral reward which man becomes entitled to reap from the conscious power of self-government; and, within such limitation, it is the pledge of many of the distinguishing traits of manly virtue. It may, without the genial guidance of education, become over-weening confidence and presumption. But rightly developed, it is the proper result of faith in the attributes conferred on man's nature by the Source of his being, in virtue of which he is rendered competent for the station and the duties assigned him, as an intelligent, but responsible moral agent. The conscious feebleness which induces infancy and childhood to rely on the power on which they feel they are dependent, is a natural and appropriate influence. But in the history of the moral progress of the human being, there soon succeeds a stage, in which for the highest purposes of life and character, he is weaned from the helpless condition of dependence on others; and self-intelligence and self-respect consciously demand the independence of self-exertion and self-reliance. A manly spirit of just confidence in conscious ability, never inconsistent with the crowning grace of modesty, secures the sincere respect of all who themselves feel the dignity of manhood, whether in its dawn or its maturity. It is an indispensable element in personal character, as the pledge of courageous enterprise, and persevering application, of firmness of purpose, efficient exertion, and final success, in whatever the sense of duty, or a just ambition, prompts the aspirant to attempt.

14. The Self-renouncing Virtues.—The dependent condition of childhood suggests the indispensable relation of habitual *obedience* to parental and guardian authority, and unquestioning *submission* to requirements which the young mind may not always be able to comprehend. The unity of plan and administration, and the perfect *subordination*, which even the imperfect vision of the human eye can distinctly trace in the arrangement of the visible creation, suggest to the reflective mind the universal prevalence of Law, as the prominent feature of Divine government. Order, and system, and gradation, which man sees inscribed on all things around him, and to which he is conscious that his own mind is an analogous agent, he feels to be indispensable in his own sphere of action. He recognizes them as prompters endued with a wisdom and authority above his own, and as the legitimate directors of his whole course of action. From the habit of early subordination, acquired under the guardian care of education, when rightly conducted in the sphere of home and school life, the self-intelligent mind, in its maturity of Christian growth,

learns to recognize the paramount claims of Divine authority to unhesitating obedience and cheerful submission, in the spirit of filial confidence and love, even when patient *resignation* to ordination not understood is the duty of the moment, and the utterance of the trusting spirit to its Author can only be, "not as I will, but as Thou wilt."

In the relations of human intercourse, the *Modesty* which feels what is due to others as exceeding the measure of merit in self, is no less surely an attribute of true nobility in man, than the self-reliance which forbids a feeble dependence on others, or a weak, subservient compliance with their arbitrary wishes. A sincere *respect* for just superiority, indicates the open eye for excellence, as manifested in the attainments and actions of others, and a full recognition of the true worth and genuine merit embodied in their character or conduct. It is the rightful homage of the heart, which ennobles, and never degrades. It restrains presumptuous self-confidence and arrogant assumption, and accepts, in true nobleness of spirit, that lower relative position which conscious immaturity, or inexperience, or limited attainments justly assign. It constitutes the docility of childhood and youth, and not less that of the mature student of science, who loves to sit at the feet of a competent instructor, and treasure up his words of wisdom.

The true dignity of man, as an intelligent and moral being, while it secures his personal independence, and his equality, in the sight of God, with every individual of the race, is by no means inconsistent with that profound respect for man, as the offspring of the Father of spirits, which generates *humility* of spirit and deportment, between man and man, forbids all assumption as usurpation, arrogance as injury, and haughtiness as insult, and yet knows how to meet them with the gentle spirit of Christian meekness. True humility deems no office of kindness too low which can minister to the welfare of a fellow being, whether the beneficent act be gratefully or thoughtlessly received. The perfect model of this virtue exhibited by Him whose spirit was so lowly that he condescended to wash the feet of his followers, was nobly copied in the heroic explorer* who did not disdain to perform the lowest of menial offices for his suffering crew.

The spirit of *condescension* which shuns all parade and formality in intercourse with the young and the dependent, and easily and gently glides into sympathy and due familiarity with all worthy fellow beings—which skillfully breaks down every "middle wall of partition" between man and man, and knows how to "condescend to men of low

* Dr. Kane, in the scenes of his Arctic expedition.

estate," without the display of condescension—does homage to the Maker, in honoring the man, and recognizes the individual's own position as on the common level of membership in the great family which has but one Head and one Master.

In the management of the family and the school, the whole class of virtues on which we are now dwelling, requires particular attention in all communities in which there is a peculiar tendency, owing to the free spirit of their institutions, to place a high nominal value on those traits of character which indicate independence and self-reliance. The unreflective, unreasoning nature of childhood, early catches the spirit of the moral and social atmosphere in which it breathes, and in its natural tendency to exaggeration and excess, carries what might have been a positive excellence to a noxious vice. The absurd and culpable neglect of parental control, so prevalent in our day, often exhibits a spectacle of apparent insanity, in the boys and girls of our families and our schools abandoning the natural and beautiful character of their years, and ridiculously trying to play the part of self-responsible men and women.

15. Example, *as a Moral Influence.*—Imitation—the power by which man is enabled to maintain his personal analogy to surrounding conditions of nature, life, and character, and thus to conform to the laws of being, in their requirements—lays him open, in the early stages of life, more particularly, to the influence of example in the actions of his fellow beings. The character of parents, teachers, companions, is, in this way, unconsciously transcribed in the daily life of childhood and youth, and, to a great extent, even in the habitual actions and expressions of maturer years. The law of sympathy, written on the human constitution, in its effects on the imitative tendency natural to man, is a most fruitful source of good or evil in every moral relation and, emphatically calls for the watchful care of the faithful educator.

16. Prudence, *as a Moral Monitor.*—This virtue—if, in obedience to ancient classification, it may be so called—when it springs from just and honorable motives, is a negative but preventive wisdom, somewhat analogous in its conservative effects, to the modesty which reserves itself in communication with others. It is, indeed, but a preventive virtue, yet one which education properly inculcates as a protection against manifold evil to the individual himself as well as to others. It forbids hasty conclusions, rash resolves, injudicious communication, inconsiderate conduct, hazardous undertakings, foolish expenditures of time, strength, health, or other means of useful or beneficent action. It resembles thus the self-control which keeps man in possession of his powers, and enables him to use them at will. Its

moral value, therefore, though negative, is great, and great, obviously, in proportion to the inexperience and unconsciousness of the mind in its earlier stages of progress.

17. PERSONAL HABITS: *their Moral Value.*—(1.) *The observance of Order and Method* in the distribution of time and the succession of occupations, seems to be, in the sphere of daily life, what the regularity of alternation in day and night and the return of the seasons, is to the year. They form a security against a thoughless, random mode of life, destitute of steady aim and purpose, made up of loose scraps of time, unconsciously or idly passed in effecting nothing. Man's dignity and destination imperatively forbid such a life. Morality and religion equally condemn it. But from the multitude and variety of objects soliciting its attention, and of desires craving gratification, the young mind, unaided by education, is prone to lose itself in vague and abortive endeavor at the passing moment, instead of relying on that continuous and systematic industry to which nothing practicable is denied. As the bark of life floats down the ceaseless stream of time, the hand of diligence gathers into it, hour by hour, the rich and ever increasing freight of varied acquisition, in anticipation of another and yet happier voyage, in the great Hereafter.

Activity and energy, in any pursuit, are valuable or successful only as far as they have the continuity and sequence of *system.* It is this logical principle which gives unity and invaluable results to studies pursued under even the most limited opportunities of time, and which enables the student to weave the life of a day or of an hour into the continuous web of the week, the month, and the year.

(2.) *Industry.*—The love of work, and the habit of working—the steady pursuit of a practical purpose in practical forms, is man's first step in the efficiency which elevates him above the lower tribes of animal life, as a being endowed not with the mere sagacity—if it may be so called—of instinct, but with the intelligent forecast which foresees, and fore-ordains, and prepares; and which consciously shapes and sustains a definite purpose, and willingly and skillfully toils for its accomplishment. For the attainment of such results he is qualified by his original, native love of activity; and when this primary impelling power is directed by intelligence and benevolence, it gives efficiency and success to all his endeavors, whether in the toil which wins the treasures of knowledge and learning, in that which accumulates those of wealth, or in that which indefatigably works for human good, in the labors of beneficent philanthropy.

A judicious *apportionment of time and occupation,* however is indispensable to successful and continuous industry. By such a

method only can the fatal evils of excessive close application be avoided, and the due alternation of intervals of entire rest and of renovating recreation afford opportunity of restoring and maintaining the energies of life and mind. He who does not bring to his work the powers of a whole man, is incompetent even to the task of the moment, and, in the long run, his exertions prove but a succession of failures. The jaded student or teacher, and the harassed man of business, are alike unfitted for the nobler moral purposes of their being. Habits of early-formed obedience to the Creator's laws which regulate the whole nature of man, are the only sure reliance for the possession of permanent vigor of body and mind, or the soundness of moral health in the dispositions and affections of the heart. Nothing short of this personal morality in planning and conducting the business of life, can secure the unity of life in the whole man, as an intelligent, efficient, responsible moral agent.

The hygiene of man's moral being demands the most faithful attention even to the minor details of corporal well-being; and in no respect can education more effectually subserve man's best interests, than by an enlightened and constant attention to these requisites of mental health, through the whole decisive period of childhood and youth, which so effectually determines the character of subsequent life.

The lengthened catalogue of virtues and of duties, which a distinct enumeration of the moral capabilities, of human nature, as the subject of educational culture, required, will not discourage the faithful teacher, in view of the manifold duties devolving on him as the guardian of the young mind; if, as we hope he does, he regards moral culture as the chief part of his work, and values intellectual attainment in his pupils only as it conduces to the higher ends of being and of character. Nor will the extent of detail in our suggestions be objected to by those who feel, from the daily experience of the teacher's life, how close must be the watchful observation of disposition and habit, and how thoroughly practical must be the meliorating methods of influence, in the management of the schoolroom as a scene of moral development.

If the preceding outline of classification serve no higher purpose than that of a convenient list for reference to prompt the memory of the teacher, in his endeavors to do some measure of justice to the numerous sources of moral influence on life and character, the purpose of the writer will have been effectually accomplished.

III. THE UNIVERSITY.

SIGNIFICATION OF THE TERM.

THE word "university" is often used without any clear apprehension of what it really means, or is meant to mean. Probably it is at present most frequently employed, when employed intelligently, as signifying an educational institution of great size, and which affords instruction of an advanced grade in all learning. It has however certainly often been assumed by institutions not in all respects answering even to this loose definition; not of great size except prospectively, and whose universality of learning and teaching is in aspiration only.

I. "*Universitas*," both in the usual Latin and in the technical legal language of ancient Rome, from which last it was probably immediately transferred to institutions of learning, means

1. A company, or corporation, or association, or organization of *persons*, acting permanently together, and therefore corresponding most nearly to our word "*corporation*."

2. Any number of *things*, either actually united in some sense, or legally considered as so united.

II. During the middle ages, *universitas* was employed to denote

1. Any number or class of persons mentioned or addressed collectively; as, "*universitas vestra*," applied by the municipality of Oxford, A.D., 1212, to "all believers in Christ (*omnibus Christi fidelibus*);" and by the Bishop of Ely in 1276, to the same. This is analogous to the use of *unitas* in the Latin name adopted by the Moravians, "*Unitas Fratum*." It was used in a proclamation by one of the kings of France, as a mode of addressing his kingdom. And see Ducange and Carpentier, *in voce*.

2. A public corporation; as a guild of artizans; a chapter of canons; and more particularly a town. An old seal of Nuremberg has "Seal of the university" (*i. e.* incorporated body) "of citizens of Nuremberg, (*Sigillum universitatis civium de Nuremberg*)."* Thus there might be, as the "*Penny Cyclopædia*," observes "a university of tailors." It was also applied to a number of churches under one ecclesiastical superintendent.

* *Description of silver coins of Nuremberg*, (*Beschreibung der Silber-Münzen der Reichs Stadt Nürnberg*." By von Hagen. 4mo., 1766. Preface.

3. A constituent member, or element, of a General Study (*Studium Generale*).

This third sense is the subject of this discussion; the others, however, being valuable, as furnishing illustrative analogies.

III. What was a *Studium Generale?*

The name first used to designate the earliest European universities was *Schola.* From the thirteenth century, the most common term, for a long time, was *Studium;* and as an especial and honorary term, *Studium Generale.** This is used, for instance, in the bull to Placenza, 1248; in the grant to the school of law at Rome, 1250; in the bull to Perugia, 1307; in the charter of Arezzo, 1356; of Vienna, 1365; in the bull for a theological faculty there, 1386; in the charter to Ferrara, 1391; in the bull to Ingolstadt, 1459; in the charter of Wittenberg, 1502.

On the meaning of *Studium Generale,* Savigny observes, (iii., 412): "The name has been interpreted to intend the whole collective body of the sciences, but incorrectly; because in the first place, no one of the celebrated schools aimed at all those, but they were at first rather limited to one single faculty, and might be without any one or more faculties, without being any the less a *studium generale;* and because in the second place, the same term was also used by single faculties.† The name rather refers to the extent of the scope of operation of these institutions, which were intended for pupils of all countries."

The expressions of intention in the early charters corroborate this view. Thus, the bull for Ingolstadt, 1459, says, "That there may be there a plentiful fountain of learning, from whose abundance all may drink who desire to be imbued with good literature, (*Quod . . . sit ibi scientiarum fons irriguus, de cujus plenitudine hauriant universi litterarum cupientes imbui documentis*)."‡ Rudolph of Austria, in the charter to Vienna, 1365, says: "In order to do something in token of gratitude to God . . . and for the benefit of

* Savigny, "*History of the Roman Law in the Middle Ages,*" (*Geschichte der Römischen Rechts im Mittelalter,*) iii., 412, &c. Padua, was called *studium scholarium,* by Rolandinus, in 1222. Ib., 277.

† Thus in the bull of 1363, for the theological faculty of Padua: "We have ordained that there be a general study in the said faculty of theology, (*Statuimus . . . quod . . . studium generale in eadem theologiae facultate existat*)." And in the bull of 1422, for the same faculty at Montpellier: "We ordain that there be a general study of the faculty of theology, (*Ordinamus quod . . . studium generale theologiae facultatis existat*);" and for Vienna, 1384: "We ordain that in the said theology there be a general study (*Ordinamus quod . . . in eadem theologia sit studium generale*)." The law school at Pisa, was called *studium generale.* Fabroni, "*History of the University of Pisa,* (*Historia academiae Pisanae*)," 3. vols., 4mo. Pisa, 1791, 1792, 1795. Quoted in Savigny, iii. 362.

‡ Mederer, "*Annals of the University of Ingolstadt,*" (*Annales Ingolstadienses academiae. Inchoarunt V. Rotmarus et J. Engerdus; continuavit J. N. Mederer.*" 4 vols., 4mo. Ingolstadt, 1783. iv., 42.

the human race."* Ludwig of Bavaria, in his charter to Ingolstadt, says, "we have therefore erected, ordained and established a high, common, honorable and free university and school in our city of Ingolstadt, (*So haben wir . . . ain hohe gemain wirdig und gefreyet Universitet und Schuel in unser Stat Ingolstat fürgenomen, geordnet, und gestift*)." (Mederer, iv., 42). Klüpfel† says of Tübingen, founded 1477, that it "was not only *universitas litterarum*, but also an association (*Genossenschaft*) for the benefit of the common study, (*gemeinsamen Studiums*); a *universitas studii generalis*."

Petrus Gregorius Tholosanus says,‡ "The term public or general studies is applied to schools in which study is privileged, either by a public grant of the pope, or of the prince, or by ancient custom, of whose beginning the memory is lost; and where the society and assembling of scholars and teachers is permitted; the name of the thing containing, for that contained. Such an institution may be called a general study or a university, for the same reason; because the studies pursued there are offered to all, and are public, and free of expense to those desiring to learn, and taught by settled teachers; and are privileges granted to all students. Nor are they any less to be called general studies, or universities because not all sciences, but some only, are pursued and taught there. For their generality does not pertain to a university of sciences, but to the public purpose of their instruction. For those who originated and established and privileged these "studies," intended that a lecture should be read upon an appropriate number of arts and sciences; and that if they were read on others, that such others should not enjoy the privileges accruing to those prescribed to be taught, and to the pupils and teachers in them. (*Studia generalia, hodie, seu publica dicuntur, scholae in quibus publice ex privilegio pontificis summi vel principis, vel antiqua consuetudine, cujus initii non extat memoria, studium est privilegiatum, et permissa societas et concursus scholasticorum et docentium; continens pro contento. Potest dici studium generale et universitas ratione eadem, quod studia quae ibi tractantur universis proposita sint et sint publica, et gratis, volentibus discere, proponantur ab institutis preceptoribus, sintque privilegia universis studentibus concessa. Neque ideo minus studia generalia dicentur aut universitates, quod non omnes scientiae ibi, sed certae tantum tractentur et doceantur. Nam generalitas ad universitatem non pertinet*

* Raumer, "*Contributions to the History and Improvement of the German Universities.*" Edited by Henry Barnard. 8vo. New York: 1859, p. 12.

† "*History and description of the university of Tübingen,*" (*Geschichte und Beschreibung der Universität Tübingen.*) By Dr. K. Klüpfel. 8vo., Tübingen, 1849, p. 5.

‡ "*On the Republic* (*De Republica,*") Lib. xviii., c I., § 87. Quoted in Sir William Hamilton's "*Discussions on Philosophy and Literature.*" 8vo. New York, 1853, p. 475. Hamilton calls him "a great jurist of the sixteenth century, the dean of the juridical faculties in three universities."

scientiarum, sed ad publicam causam docendi: prout enim placuit iis qui instituerunt et erexerunt et privilegiarunt studia, scientiae et artes ibidem legi publice tantum debent, et si aliae legantur, non utuntur privilegiis quibus praescriptae docendae, et earum doctores et auditores utuntur et potiuntur)."

Thus it appears that the great European schools of learning of the thirteenth and subsequent centuries were called *studium generale;* and that this name was given to them because they were for the general or oecumenical body of students; for all comers; for the human race; that their generality was of proffered invitation to whatever they could afford; not of an asserted possession of whatever could be desired. It meant not a place where every thing was studied, but a place to which any one might resort to study whatever was taught there, whether but one study, or several, or all allowable studies, (*omni licita facultate*). It might be in one faculty only, in all, or in any selected number.

IV. What was the relation between a *studium generale* and a *universitas?*

The "general study" was not at first an existing and acting body in any proper sense. It was a term used to describe a place of resort for students. The *universitates* were the efficient bodies. As to the relation between the general study and the universities which existed at, or within it, Savigny says, (iii., 412), "The word "university" did not mean the school as such, but had its strict Roman meaning of a *corporation*, formed for purposes connected with the school. The constituent members of this corporation, who exercised its powers and appeared in its meetings, were not chosen in any uniform manner, but under whatever rule was adopted at each individual school. Thus at Bologna, the term *universitas scholarium* was most commonly used to describe it; and at Paris, *u. magistrorum.** But in no event did any person then think of that signification of the word which was first invented at a very late period, and which made it intend the whole body of the sciences. This was an impossible idea at a time when so many of these schools included, for instance, both a *universitas juristarum* and a *universitas artistarum.*

Tomek† says, "It is also of course understood that the members of the *studium generale* had the right to constitute a special organization (*eine besondere Gemeinde*) with its own peculiar rights. The idea of this organization, the university, must espcially be in early times, be strictly distinguished from that of a general study; for it

* Sometimes here also. *u. magistrorum et scholarium.* When the latter term is used alone of Paris, it is to be explained by the early usage which included *magister* in *scholaris.*

† "*History of the University of Prague* (*Geschichte der Prager Universitat*)." By W. W. Tomek. 8vo. Prague, 1849. p. 6.

was not necessary that one general study should also constitute but one university. It might include several such, as well as several faculties."

And again, pp. 26, 27; "After this time" (*viz.*, the end of the quarrel of the year 1372, between the faculty of law and the other faculties), "the general study at Prague remained divided into two universities, having nothing in common, except their chancellor. . . . The university of law (*Juristenuniversität*) enacted its separate statutes in the year 1373."

The *studium generale* might include universities formed on a principle of nationality. This was the case at Bologna, where there were at an early period, at least, two universities of this kind, the ultramontane and citramontane. The universities might also be termed from their particular department of study, as at Prague. This division afterward prevailed at Bologna, along with the other; and in 1561, were published these "*Statutes of the university of jurists in the gymnasium of Bologna*, (*Statuta . . . universitatis juristarum gymnasii Bononiensis*)."*

There was at Padua, in like manner, both a cisalpine and a transalpine university, both of jurists, and each with its rector; and at the same time a *universitas artistarum*, with a third rector.† At Pisa,‡ "The scholars constituted the university, except that the university in theology consisted exclusively of the teachers in that department." In 1340 there were there, however, a cisalpine and a transalpine university. At Vicenza, there were four separate universities by nations, in 1205.§ So there were at Vercelli, about 1228.‖ At Ferrara, the jurists and "artists" (members of the philosophical faculty or faculty of arts,) were separate universities.¶ At Montpellier, there were two universities; in medicine and law.**

These universities, whether the general study contained one or more, and whether constituted by nations or by the studies pursued, were the bodies which transacted the business. They appointed professors, fixed salaries, determined courses of instruction, enacted statutes, treated with all individuals and bodies, and gave the degrees, which the chancellor—who in this formed a center or head to all the universities of each general study—approved, as the Pope's representative.

V. How did the term *universitas* supplant (as it did) that of *studium generale?*

The answer is, by the ordinary course of modification of terms;

* Savigny, iii., 160. † Ib., 278. ‡ Ib., 305. § Ib., 307–3.
‖ Ib., 310. ¶ Ib., 317. ** Ib., 383.

according to which they lose more or less of the close applicability for which they were at first chosen, and are employed with whatever degree of incorrectness becomes convenient, to designate something in some way descended from or representing or related to the original thing, but not necessarily the same, or the like, in any strict sense.

Thus, as soon as the *studia generalia*, instead of immemorial usage, began to act under, or originated from, some express charter or grant, the meaning of the term *studium generale*, began to tend to become identical with that of *universitas*. At the end of the fifteenth century, this was substantially the case. The charter of foundation of the university of Wittenberg, in 1502, defines the new institution as "a general study or university, or gymnasium, (*studium generale sive universitatem aut gymnasium*)." So, Duke Ludwig of Bavaria, thirty years before, in his charter to Ingolstadt, calls it a "university and school, (*Universitet und Schuel*)."

Before this period, the word *universitas*, when used of a corporation at a *studium* was joined with additional words showing *what* university was meant; and this of course, just as much as at present we should add the words to "society" or "corporation," to signify what sort of one was meant. Thus we have, of Vicenza, 1205, *u. scholarum;* of Paris, at sundry dates, 1209 to 1406, *u. doctorum et scholarium, doctorum et discipulorum, magistrorum et scholarium, scholarium;* of Toulouse, 1223, *scholarium;* of Bologna, 1235, same; of Oxford, 1250, same; and 1300, *magistrorum, doctorum et scholarium;* of Cambridge, 1268, *scholarium;* 1276, *regentium et scholarium;* 1486, *studentium;* of Reggio, 1276, *scholarium;* of Montpellier, 1289, same; Lisbon, 1290, same; Perugia, 1307, same; Prague, Paris, Vienna, Turin, Louvain, 1347 to 1425, *studii.*

But now, *universitas* had acquired a technical meaning, from its long use, in speaking of these most prominent and influential of all the different sorts of mediæval *universitates;* and from about A. D., 1500, the various terms *studium, studium generale, universitas, u. studii, u. studii generalis, academia, gymnasium, archigymnasium, Universität,* and *hohe Schule,* began to be used quite indiscriminately, to designate what answered to the earlier *studium generale* with its included *universitates,* but what had by that time become substantially what the present European universities are.

Here the present historical discussion ends; for it is not now proposed to speak of the essence or powers of a university as now understood.

During the period of about six hundred and fifty years since A. D. 1200, all of which, except the last century, has been one of fanciful-

ness in all manner of interpretation, various erroneous accounts have been given of the meaning of *universitas*.

It was derived, for instance, from the universality of the beneficent intentions of founders or teachers. That this was wrong, has been sufficiently shown in treating of the history of the word. That character, it is true, was the basis of the earlier term *studium generale*; but not of the legal term *universitas*.

It was derived, again, from the assumed universal scope of their field of instruction. This interpretation is, however, conclusively answered, not only by the same arguments as in the former case, but by the absurdity which its admission would imply, on the one hand, in the usual expressions of *u. doctorum* or *scholarium*, which necessarily refer its *universityness* to its human constituents, and on the other hand, and still more forcibly, in the equally common ones of *u. juristarum*, or *artistarum*, or *theologiae*, which phrases make nonsense, if we permit one of the words to apply the university to all things and the other to limit it to one, as much as to say "an institution for studying every thing, where they study nothing but law."

Again; both *studium generale* and *universitas*, were sometimes derived from the generality or universality of the currency of the degrees which they gave. Though not absurd, no reason appears in the text of early charters or authors, to support such a derivation, and it seems mere conjecture. The constant early use of accompanying words to define the constituents of *universitas*, seems positively to exclude the idea of its having had any other meaning than that of a collective body, organization, or corporation.

The true idea of the university as it has existed, will be developed in the history of a few of the more prominent institutions. The accounts of their historical development, various modes of action, and connection with the State and with educational systems, will afford materials for determining this question.

On the following page is given a list of some authorities on the earlier Italian and French universities.

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IV. UNIVERSITY OF TÜBINGEN.*

I. FOUNDATION TO THE REFORMATION, 1477—1535.

THE universities of the middle ages were centers of influence not only upon learned studies, but upon all departments of intellectual activity. They had a decisive influence upon the formation of views in philosophy, theology, law and politics. Before the discovery of printing, and indeed for a short time after it, they were the ordinary means of intellectual intercourse, filling the place of the press, both in learned and in light current literature. They were also the organs of public opinion. But the education furnished by the universities was still by no means an education for the masses of the people. It was thoroughly aristocratic, and its recipients formed close corporations, which took rank by the side of the corporations of the clergy and nobility, as a privileged class; the degree of doctor, for instance, conferring the privileges of nobility. And like those other classes, the universities were at first by no means arbitrary creatures of political authority, but natural results of the mental activity of the period. They arose in consequence of the appearance of some beloved and influential teacher, around whom gathered a circle of scholars, which in turn attracted to itself other teachers and other scholars. Thus originated the universities of Paris, Bologna and Salerno. But all this was no longer the precise significance of a university, at the time when the German ones were founded. These latter were no more the natural outgrowth of the intellectual life of a nation, but arose only after the period of the bloom of the national intellectual life. Their essence is to a far less degree the mental life of their time; it is no longer the emperor of Germany who as such establishes the university, but the hereditary lord of a country, who directs the current of learning and education through separate canals in his own dominions. The first university which was founded in the German empire, that of Prague, is an instance of this. It was founded in 1348, by the emperor Charles IV., in his favorite city, after he had given up all hopes of gaining the German empire, and had withdrawn to his hereditary dominions, to establish his authority there on the basis which he preferred. After this example, several other universities were founded in German provinces, but all under

* Compiled from "*Klüpfel's History*," for the American Journal of Education.

the auspices of the immediate sovereign. Such were Vienna in 1365; Heidelberg in 1386, and Leipzig in 1408. The fifteenth in order of foundation is Tübingen, which was founded in 1477 by Count Eberhard of Wirtemberg, who was led to follow the example of other German princes, by his own opinion of the value of learned education, and by the influence of his accomplished mother Matilda, an archduchess of Austria, and of some of his council, especially Vergenhans, surnamed Nauclers, and Reuchlin. The decree of foundation, dated 3d July, 1477, thus speaks of his intention:—

> He has often considered how he might best set about some enterprise well pleasing to the Creator, and useful for the common good and for his subjects. He has arrived at the conclusion that he can begin nothing better or more pleasing to the eternal God than to prepare means for the instruction of good and zealous youths in the liberal arts and in learning, so that they may be enabled to recognize, fear, and obey God. This is better than to build magnificent churches and to found wealthy ecclesiastical institutions; for the best temple of God is the human heart, and the Creator takes more pleasure in the goodness and holiness of men than in splendid temples, which contribute but little to happiness; while the great object of moral training and elevation can in no way be better attained, than by means of instruction in learning. In this good belief he has determined to found a school for human and divine learning.

Count Eberhard also uses some remarkably noble expressions in the charter, dated 9th October, 1477. He says here, "In the good design of aiding to discover the well-spring of life, so that helpful and healthful learning, flowing thence in streams immeasurable to all the ends of the world, may work for the quenching of the destructive fires of human unreasonableness and folly, we have determined and undertaken to organize and establish a university in our city of Tübingen." As reasons for selecting Tübingen, he mentions the agreeableness and fruitfulness of the neighborhood, and the healthfulness of the air, as facts patent to all. One main reason also probably was that Tübingen was the principal city in his dominions.

As universities were properly ecclesiastical institutions, their legal establishment had to be confirmed by the pope. This had already been done, in the application of Count Eberhard, by Sixtus IV., by a bull of November 14th, 1476, promulgated at Urach on the 11th of March, 1477, before many of the lay and clerical notabilities of the country, by Heinrich Faber, abbot of Blaubeuren, as apostolical commissary. Here was read the papal act of foundation, which ordered the establishment of the university (*allgemeines Studium*) for every faculty and every allowed branch of learning, the erection of chairs of instruction in every faculty, and the compilation of a constitution and statutes for the university. The chief object of the institution was set forth as the propagation of the orthodox faith; since by learned studies the soul's health is promoted, controversies are healed, peace and quiet induced, things permissible and forbidden distinguished,

rewards apportioned to the good and punishment to the bad, and thus eternal and temporal advantages secured to the world. A very important point of the papal bull was the pecuniary endowment of the new institution. The revenues of the benefices of Brackenheim, Stetten on the Heuchelberg, Asch, Ringingen and Ehningen, were granted to the University, which was on its part bound to have their ecclesiastical duties performed by competent vicars. The most important endowment, however, was that of the prebends of the St. Martin's foundation in Sindelfingen, which were for this purpose transferred to the St. George's church in Tübingen. The eight canonries of this foundation were to furnish the incomes of the theological and juridical faculties, and the professors were to be canons. The deanship was to be held by the chancellor.

The imperial confirmation came some years later, on the 10th of February 1484, and gave the university permission to teach and expound all the imperial laws, and to confer degrees in the science of the same. The University was opened in September and October 1477. On the 14th of September enrolled themselves in the matriculation book several noblemen of the count's court, the abbot of Blaubeuren, Johann Degen, dean and first chancellor of the university, Lucas Spechzart, the count's private physician, and some of the count's council. The lectures were opened on the 1st of October, and on the 9th was held the first session of the senate, on which occasion Count Eberhard's charter was read, and the statutes presented, compiled by Abbot Heinrich of Blaubeuren.

Constitution of the University.

This charter recognized the University as a privileged corporation, and laid down the outlines of its constitution. Count Eberhard, in it, took all the doctors, masters and students under his special care and protection, and commanded all his officers and subjects not to injure in body, goods or honor, any one connected with the university, under a penalty of 100 florins. If any one so connected has a lawsuit with a citizen, the courts are bound under penalty of 100 florins and loss of office, to do justice without favor. Under the same penalty it is forbidden to all authorities to seize any of the instructors or students, or to lay violent hands on them. Only the rector can order such measures, and in him alone, with the concurrence of the senate, renders the power to decide upon university matters and police. He may, however, call on the authorities if unable to enforce his authority. All persons connected with the university, and their goods, are freed from all duties, tolls, exactions and taxes; a privilege which duke Friedrich afterward confined to necessaries

of life for domestic use. All these privileges are granted not only to the professors and students, but to their wives, children and servants, and for the beadles, scribes, book-binders, printers and illuminators, resident at Tübingen. Without the rector's permission, no one might take student's books in pawn under penalty of 40 florins. And no Jews or other usurers might live in the city.

Without the license of the Medical Faculty, no one might practice medicine or surgery in the city and neighborhood. These privileges, granted by the count as the lord of the land, were recognized by the city by a special agreement, and sworn to in the hands of the rector by the bailiff and two of the council. The city clerk was bound to read them over in the cathedral every year on St. George's day, before all the people. On this occasion any grievances or wishes of the city or the university were stated, and a banquet concluded the ceremony.

Next to the charter, the chief authorities for the original constitution of the university are the first statutes of 1477, and the ordinances of the various faculties, drawn up from 1480 to 1495. In these we find many points of similarity to the university of Paris, which was the model for most of the German universities. Like that, the university of Tübingen was *universitas*, not only *litterarum*, but also in the sense of being an organization for the benefit of the general study; *universitas studii generalis*. It was to be one body, whose members were the separate faculties, themselves again constituting close corporations. There was here no occasion for such a division into "nations" as prevailed at Paris, most of the students coming from the immediate neighborhood. As in Paris, the government was exclusively in the hands of the teachers. The professors, or masters and doctors privileged and bound to lecture, were called *doctores regentes*, an expression derived from *regere=legere*, but applied to their share in the government. The rector, as head of the whole corporation, was chosen by this body from among themselves, annually, on St. Philip's and St. Jacob's day. The rector called together the senate for consultation upon all university matters, himself presiding; had charge of the finances, in connection with four deputies, and exercised jurisdiction, in criminal affairs with the concurrence of the whole senate, and in civil affairs with five members of it, usually from the juridical faculty. The chancellor acted as his substitute in the government and in the papal court, but was subordinate to him in rank. He had charge also of the ordinary conduct of the university, and with some members of the senate constituted a tribunal of appeal from the judgments of the senate. As the mandatory of the pope, the chancellor must be an ecclesiastic, and was usually dean of St.

George's, receiving his salary as such. The officers and servants of the senate were, the Syndic, the Notary, afterward termed Secretary, and the Beadle. The syndic kept the accounts and the cash, and ranked with the professors. The notary drew up papers for the senate and the academical courts, framed and expedited resolutions and decrees, made reports, and kept the records. He must have studied law, and been admitted a notary of the imperial chamber of justice. The beadle's duty was to go upon errands for the senate or its members, to have charge of the watch and police departments, to collect fines, and to inflict other penalties. His pay was one-third of all fines collected, and 20 florins of fixed salary.

Within the university corporation were the four faculties, each having a constitution similar to the general one, and the right of drawing up their own statutes. The principal or speaker of each faculty was the dean, who was chosen annually by the other members. The faculties stood in a certain gradation of rank, the theological being the highest. This consisted of three doctors of the Sacred Scriptures, who were also canons of St. George's foundation, whose prebends furnished their salaries, which were at first about 100 florins. The second place was held by the faculty of law, which was also graded within itself, the higher section consisting of the Doctors of Decretal Law, (*doctores decretorum,*) who taught the canon law, were usually theologians, and also, in virtue of their clerical dignity, canons. The senior professor received 120 florins, the two others, each from 80 to 90 florins. The lower section consisted of the doctors of laws (*doctores legum,*) who taught the civil law. The senior professor received 100 florins, the second 80 florins, and the third, who lectured on the Institutions, from 30 to 40 florins. The medical faculty, which ranked third, consisted of only two instructors; of whom one was paid 100 florins, and the other 60 florins. These three faculties were termed the "superior faculties," in distinction from the philosophical faculty, or faculty of arts, as it was at first called, whose position was quite inferior to theirs, and in a certain sense under their oversight and guardianship. Not all its members were admitted into the senate, but only the dean and two others; and even these were in many cases excluded from acting, and they could not be chosen deputies. The ordinary professors in their faculty were four, two of the old way, or realists, and two of the new way, or nominalists. There was a fifth professor, who was to lecture on oratory and poetry. The four former received 25 florins salary, and the last 20 florins. The ordinary professors in arts had also free lodging in some of the colleges, and might not marry. These five constituted the faculty proper, but all those who had taken an academical degree in philoso-

phy might rank as members of it, and might lecture. The statutes of 1488 provide for the four collegiate doctors, ten *conventores* (masters who lectured,) two pedagogues, and two *resumptores magistrandorum* (probably a kind of repetents or tutors.) This subordinate position of the faculty of arts is quite peculiar to Tübingen, and is found in no other university.

The senate elected the professors, the chancellor representing the state; and the ruler of the country must confer the appointment when the choice was made. In these elections, as elsewhere, the philosophical faculty was inferior to the others. In 1491, the rules for electing were, that there must be present at choosing a professor of theology, besides the rector and chancellor, two doctors of the sacred scriptures, if there were so many, one decretist, one legist, one doctor in medicine, and two in arts; in electing a professor of law, or medicine, all the professors of the higher faculties must be summoned; and in electing a professor in arts, besides the professors in that faculty itself, these must assist the theological professors, two of law, and two of medicine.

The ordinary professors were bound to give one ordinary lecture daily. Ordinary lectures were those delivered in the forenoon, upon the prescribed subjects of study or text-books. Extraordinary lectures were those delivered in the afternoon, upon subjects considered only of collateral importance. Any professor omitting a lecture had to pay a fine of a half florin for every hundred florins of yearly salary, or at that rate. Sickness, university business, &c., excused from the fine. If a lecture was omitted by permission of the rector, either it might be delivered at some unoccupied hour, or the fine be paid.

Besides the salary, no fee, at least for the public lectures, was paid the professors. The decree of foundation expressly says that the instructors must have fixed salaries, that they may lecture gratis, and that poverty may be no hindrance to a knowledge of the truth. In the oldest statutes of the faculty of arts, a *pastus* or lecture-fee is mentioned. Until the middle of the eighteenth century, however, the honorarium was an exception, and very small. The vacations, which are not mentioned in the earliest statutes, &c., were in 1518 fixed as follows: at Christmas, from St. Thomas' day to the Epiphany; eight days from Quinquagesima Sunday; from Maundy Thursday to the end of Easter-week; eight days at Whitsuntide; and an autumn vacation from St. Michael's day to St. Luke's day, usually some two and a half weeks; in all, about eight and a half weeks.

An important feature of the older universities on the plan of that of Paris was the "colleges," or boarding establishments, where the scholars lodged, with their instructors, and boarded. Of these there

were only two at Tübingen, called the *Bursen*, or *Contubernium*, and which both occupied a single building. They were designed for scholars in arts, and one was occupied by nominalists and the other by realists. They were called the Eagle and the Peacock (*aquile* and *pavile*.) A professor in arts was usually at their head, and was entitled *rector contubernii*. A steward had charge of the boarding arrangements. A moderate rate was charged for board and lodging, and that it might be lower, a hundred measures of barley were furnished annually, gratis, by the university and the state.

The income of the university, from the eight canonries and five benefices already mentioned, from a title given by a papal bull in 1480, was not more than 1000 florins a year, which was all expended in salaries, except the small donation to the *Bursen*, none being laid out on scientific objects or collections.

Literary Condition.

The university was founded at a period not unfavorable to literary labors. The revival of classical learning had already directed attention to elegant studies, which were already eagerly pursued by circles of students in various parts of Germany. But this spirit did not at once penetrate the universities. At Heidelberg, close by, Agricola had been unable to maintain himself; and Johann Wessel, the theological forerunner of Luther, had been obliged to leave it. At all the universities the old scholastics, founded partly on the dogmas of Christianity and partly on the misapprehended doctrines of Aristotle, possessed their ancient dominion, although they had long lost any creative vigor, and consisted only of monotonous repetitions, and a sophistical play of logical forms. The actual amount of knowledge which was communicated at the universities was both strictly limited in extent, and remarkably dry, In natural science, history and antiquities, it consisted in a disconnected miscellany of detached scraps of knowledge. Even in jurisprudence, which had just received a new element by the resumption of the study of the Roman law, there was no really vigorous investigation. Under such circumstances it was not to be expected that the literary aspect of things, at the opening of the new university, would be remarkably flourishing. It was also at first found difficult to secure distinguished instructors. The most eminent of the theologians was Gabriel Biel, the last of the scholastics, who had much influence upon the organization and administration of the university. Besides him we find one Conrad Summenhard, of whom it was reported that he studied the Scripture with too free a spirit; one Martin Plantsch, who seems to have distinguished himself as a pulpit orator; Wendelin Steinbach

and Jacob Lempp, pupils of Biel, and confirmed scholastics. Among the jurists, the most eminent was Johann Vergenhans, surnamed Nauclerus, though he is better known for character, varied attainments, and the high opinion entertained of him by Count Eberhard, than for any particular juridical labors. He is also known for his Chronicle, which began after the manner of the period, with the foundation of the world, and is an important authority for the fifteenth century. Most of the names of the rest of this faculty are quite unknown; as Marenchus, Vesselen, Ochsenbach, Truchsess, Widmann, Hartsesser. One of them, Vitus Fürst, afterwards became *Podesta* (*Statthalter*) of Modena. Among the medical faculty was one eminent man, Johann Widmann, also known by the names of Möchinger and Salicetus. In the faculty of arts, Paul Scriptoris had a reputation as a man of intellect, an expounder of Duns Scotus, and a mathematician. In the same faculty was Johann Reuchlin, who however only remained a year; although his influence even during that short time may have aided in causing the invitation of Heinrich Bebel of Justingen, sixteen years afterwards to the professorship of polite letters. Bebel labored at Tübingen for about twenty years, and was one of the most eminent humanists of the day, and an ornament to the university. His zeal for the study of an elegant latinity bore good fruit in the labors of his pupils, Michael Coccinus, Johann Heinrichmann, and Johann Brassicanus. Other eminent teachers in the university during this period were Georg Simmler, who was Melanchthon's teacher in Greek at Pforzheim; Hildebrand, another of Melanchthon's teachers at Pforzheim, a continuer of Nauclerus' Chronicle, and a zealous and successful student of Greek and Hebrew literature; Melanchthon himself, who was professor from 1514 to 1518, when he went to Wittenberg; the aged Reuchlin, who was appointed a professor of Greek in 1522, but who died before beginning his lectures; the mathematician Johannes Stoffler, celebrated for mechanical skill, and who was reputed a magician. He published in 1499 an astronomical ephemerides which excited great terror by predicting a remarkable conjunction which was to be followed by a universal flood. As the year approached writers came out for and against it, and when the fated month of February 1524 passed over with dry and fair weather, the tottering reputation of astrology received a new blow. But he was a good mathematician and successful teacher, brought many students to the university, and was also much liked as a man of wit and social talent.

The first statutes of the faculties give but little information regarding the studies; but it is evident that the formal studies and disputations, constituted an important part of them. To become bachelor

of arts it was necessary to attend the formal lectures on logic, dialectics and Aristotle, for a year and a half, to go through the usual exercises, reviews, and repetitions, to attend thirty of the ordinary bachelors' disputations, and thirty of those of the masters, and to have been respondent in at least four disputations. After this the candidate stood a public and private examination, the dean of faculty first giving him, by the beadle, two candles; and expounded and defended a thesis given him. He then received his baccalaureate, and a banquet followed, toward which the candidate paid something. A similar series of exercises preceded the promotion to the master's degree, as a sign of which a round violet-colored *birett* or cap was given. The examinations for degrees in theology and law were of the same character.

King Ferdinand gave the university a new order of studies, apparently the first one, in 1525. In this, instead of the wearisome paraphrases and translations of Aristotle, were prescribed the newer and more reasonable treatises of Faber Stapulensis on dialectics and logic; and of the commentaries, Averroes and Avicenna of the Arabic ones, Themistius, Simplicius and Theophrastus of the Greek, and Albertus Magnus, Thomas and Scotus of the Latin. Those of the monk Johannes de Gandano were prohibited, as were all of those sectarian and innovating writers who fancy that there are several roads to truth instead of one. The *conventores* (a sort of tutors who lodged with the scholars,) were to use in the contubernium the epitomes and smaller Logic of Faber, the text of Petrus Hispanus, or Rudolph Agricola. In theology, the course for which was fixed at five years, the work of the professors was thus distributed. The first was to lecture on the Pentateuch, Paul's epistles, and one book of Sentences of Petrus Lombardus; the second, or the Gospels of Matthew and John, Psalms, Job, and one book of Sentences; the third on Isaiah, Jeremiah, Daniel, Mark, Luke, Acts, the canonical Epistles, and one book of Sentences; and the fourth on one book of Sentences, the minor prophets, and Hebrews.

The lectures for the five years' course in jurisprudence are similarly prescribed. The medical students, whose course was of four years, studied Avicenna, Almansor, Galen, and Hippocrates. A course of anatomy was to be given at least as often as once in five years!

This course of studies was narrow, but not more so than in the other German universities.

Manners and Morals.

There being but one *Burse* at Tübingen, that institution did not so much facilitate the oversight of the students as in some

other universities, most of them being left to their own selection of lodgings.

The disciplinary ordinances of the first statutes are in substance as follows:—The students are to be respectable in deportment and clothing, respectful to the doctors and masters, peaceable among themselves, and shall not insult any one. Strolling about the street at night is especially forbidden, as well as unfair gaming, going to public dances without an invitation, and nocturnal debauchery in houses of ill-fame. If a student uses insulting language to another, he is to pay to the university a fine of two pounds of wax (about 15 kreutzers;) if he seizes a stone or weapon without actually using it against any one, three pounds; if he inflicts a slight injury with them, two florins, besides the confiscation of the weapon. Severe injuries were to be punished by the rector and senate according to the nature of the case. For clothes, the ecclesiastical or scholastic cut is prescribed, and garments cut short, or otherwise indicating frivolousness are especially forbidden. Mantles must open only at the breast or the side, and must cover the whole body. Weapons may be carried, but not unusual ones. No spurs must be worn more than a finger long. Red or round biretts or caps are forbidden, with a view to preserve the distinctions of the clerical and other dignitaries. Warnings against the company of disreputable women are repeatedly given. For introducing any such person into the Burse, the first time, a fine must be paid of a quarter of a florin; the second time of a half florin, the third time of a whole one; and for a fourth offence the penalty is exclusion from the Burse. It is observable that these statutes name no penalty of imprisonment.

A rescript of Eberhard II., to the university and to the bailiff of the city, of the 6th February, 1498, gives but a poor impression of the morals of the students. The duke says that it is reported that the students of Tübingen squander much money and study little, and he therefore requests these authorities to be assiduous in causing them to be studious, and to avoid insolence, expensive dissipations and disorderly behavior. The bailiff is ordered to assist the rector and senate in upholding discipline; and to proclaim to the tradesmen, mechanics, and inn-keepers, that they must not trust the students, except merely for the necessaries of life, on pain of being deprived of the usual means of enforcing payment.

In 1523, King Ferdinand administered a very severe reprimand to the senate for permitting such disorder, at which that body, in a great fright lest their privileges should be taken from them, sent a deputation to beg for a remission of the meditated deprivations, in which they succeeded, and seem for a time to have enforced better order.

There was, however, no want at any time of regulations for maintaining discipline, which are given at great length in the ordinances of 1518. Every student was at his first coming to report himself to the dean of his faculty, to state his lodgings and the lectures which he was to attend. The dean was to examine twice a year into the industry and morals of the students of his faculty, to call up and admonish the delinquent, and to report the incorrigible to the senate for dismissal. Every student not in the Burse, was to select a master or preceptor, who was to be responsible for his conduct. The professors often performed this duty.

Religious observances were prominently enforced. All the students were expected to attend all the sermons and litanies. Any one found about the city or the country during the service was to be reported to the rector for punishment. Blasphemy, cursing, and similar offenses, were punished with imprisonment in the *carcer*, or university prison. Any one guilty of injurious words or actions to an officer or watchman of the university was to be imprisoned fourteen days, or fined two florins, or more, if the rector should so decide. Imprisonment was inflicted for all nocturnal disturbances, which term included music, which was never allowed. Any one abroad after the evening bell without a lantern, was imprisoned fourteen days. Frequenting taverns is also strictly forbidden; being allowed only in company with the preceptor, or in searching for a friend. Drinking-bouts are forbidden under a penalty of twenty florins, and if attended with disorder the rector may also imprison.

Nocturnal tumults, attacking or insulting the watchmen or citizens, concealing delinquents, were frequent causes of complaint and investigation, but were seldom adequately punished. For instance, some students of noble birth had in 1533, been drinking all day at a tavern, and tried to stab the host. At night they went into the market-place, and rioted and made outcries until two o'clock. Finding that there was a dance in the house of a neighboring shopkeeper, they demanded admission, and on refusal threatened to break in. The woman of the house called out the neighbors, who came with lances and halberts and drove the students off. The testimony at the investigation of this affair shows that such disturbances were not uncommon, and that there were frightful alarms, and assaults on the watch, almost every night. But it does not appear that the senate ever inflicted any exemplary punishment for such doings. On the rioters just mentioned, for instance, no sentence of penalty seems to have been passed. And all the provisions for maintaining public order seems to have been very incomplete, and the respect paid to the academical authorities, very small, as the following instance shows.

One Beg, of Reutlingen, had wounded a farmer of the vicinity and the rector summoned him, by the beadle, to appear before him at noon. The student replied to the officer "I will come if I have time," but did not come. The rector then sent to the city bailiff, Johannes Breuning, requesting that four of the town constables might be sent to carry the recusant Beg to prison, and to watch the city gates, so that he might not get away. The bailiff replied that he could not accommodate the rector, having but one constable; the two others being sick; and besides, that nobody wanted to intermeddle with the affair, at all. The senate was now assembled and sent its notary and beadle together to Beg, to either put him into the prison, or bring him before the senate. He came, at last, and on appearing was condemned to imprisonment, and shut up. A few days afterward, a deputation of noble students appeared before the the senate to demand his release. One of the most prominent of the students, Vitus Lang von Planeck, who had before been threatened with dismission for keeping a mistress and attending no lectures, and who had been one of the worst actors in the late riot in the market-place, acted as speaker, and had a hearing. The senate finally concluded to release Beg on condition that he should promise not to take any revenge, for the inconvenience of imprisonment!

Bloody contests with the townsmen often took place, especially on wedding occasions, when the students often attended uninvited, and behaved insultingly. On one such occasion, at the wedding of a vine-dresser a body of students coming in that manner, the same Vitus von Planeck at their head, was received by some young vine-dressers with clubs, and there was a pitched battle in front of the Hospital church, the vine-dressers, however, getting the worst of it. They complained to the authorities, investigations were made, and the delinquent students, punished, as the protocol states, "as justice required." What the penalty was, does not appear. Going to dances in this way was often prohibited, but apparently without much result. The students also often got up dances. But this required the permission of the senate, which was frequently refused, to the great disappointment of the young gentlemen.

Dice was a prohibited amusement, the penalties being, for the first offense an admonition, for the second half a florin fine, for the third dismissal. But no instance is found of the latter. Lampoons were forbidden, and were to be punished at the discretion of the rector. And indeed, nothing whatever might be printed in any language or on any subject, without the approbation of a censorate consisting of the rector and the four deans of faculty.

II. REFORMATION TO RE-ESTABLISHMENT AFTER THE PEACE OF WESTPHALIA, 1535—1652.

Changes at the Reformation.

Duke Ulrich of Wirtemberg, at regaining possession of his dominions, proceeded to introduce the principles of the reformation into them, and of course into the university. Here, however, he found a bitter and obstinate opposition from some of the scholastics; although on the whole pecuniary considerations seem to have prevailed so far that the university vailed its intention of yielding to the Duke, under the decent show of a request for a public discussion, according to the custom of the day, on the new principles; designating Melanchthon, then in high reputation, as the opponent most acceptable to them. But the duke, who had some reasons for disliking him, only applied to him after unsuccessful negotiations with Osiander, and Grynäus, and Blarer. But Melanchthon refused to undertake so onerous and contentious a task, for the duke wished him to reorganize the university and set it in motion upon the new principles. The work was therefore necessarily done by others; and the institution only passed into the control of Protestant instructors after a disastrous period of some ten years of dismissions, recusancy, and quarrels, both between Catholics and Protestants, and Lutherans and Zwinglians. The attendance, while second-rate men, mainly interested in fighting about doctrines and appointments, filled the chairs of instruction, also nationally decreased very much.

Blarer and Grynäus, the former a commissary for introducing the reformation into Wirtemberg, and the latter a theologian of Basle, were the authors of the scheme upon which the university was rearranged. This scheme was substantially intended to bring the course of study into harmony with the recent progress in liberal learning, by substituting classical studies for the ancient scholasticism, and the new for the old theology. It charged the former course with neglect of the languages, Greek and Hebrew especially, obscurity, as to the liberal arts, and teaching a philosophy not pure and clear, but unintelligible to the young. Thus the students received little benefit, and many only acquired a disgust for their studies.

The reformed scheme contemplated, as a means of improving studies in philosophy, a consolidation of the two *Bursen*, and the discontinuance of the two "ways," in which these studies had before been pursued. But it was found necessary to concede to the philosophical faculty, that Aristotle might be studied from the Latin, with the Greek for comparison's sake, the Greek alone, instead of being the only text, as at first proposed by the reformers, being only to be

studied when some number of uncommonly capable students should be forthcoming, and under special teachers with special salaries.

For better preparation in the languages, two preparatory schools, were adjoined to the university proper; a "Trivial School," for the rudiments, and a "Pædagogium" immediately preceding entrance to the university. An eminently fit person was to be made "Pædagogarch," with three masters to assist him; and they were principally to teach grammar and rhetoric; to read with their pupils, Terence, Virgil, and Cicero's epistles; to make them compose a poem (*carmen*), and an epistle (*epistolam*); to instruct them in music, both simple and figured, and to sing with them, sometimes after meals, a motet or a psalm.*

The university proper, formed the third of this series of institutions, and its first course was to be that of the faculty of arts (philosophical faculty). This included three sorts of lectures; 1. *Lectiones communes*, for both bachelors and masters, on Cicero *De Officiis*, and on mathematics; 2. Special lectures, *a*, for those studying for the degree of bachelor, on dialectics (after Melanchthon), rhetoric, the Old and New Testaments in Latin, with the original texts compared, Greek grammar, and Lucian; *b*, for those studying for a master's degree; Aristotle's dialectics, with the Greek text compared, physics, and Old and New Testaments, with the originals compared. 3. Free or optional lectures, not obligatory; on Hebrew, poetry, and oratory. The usual weekly disputations in the faculty of arts were continued, but for those in the Burse were substituted (Latin) poems and letters composed by the students, and exercises in declamation.

In the faculty of law, were substituted for two of the three canonists, two professors who were to read on the customs of feudal law (*usus feudorum*), *novissima jura* (the novels?) and Greek constitutions. The remainder of that faculty, and the medical faculty, remained unchanged. Except the introduction of the comments on the Bible with the comparison of the originals, in the faculty of arts, no changes were made in the course of theology. The number of ordinary instructors was fixed at 23; 2 theologians, 6 jurists, 2 medical, 7 in arts, 1 Hebraist, 1 poet or orator, and 4 in the Pædagogium.

This plan, a year after its preparation, was reviewed after consultation with Melanchthon but not essentially changed.

Finances at the time of the Reformation.

The increase in the number of professors, and the appointment of

* This Pædagogium lasted until the Thirty Years' War, when it fell into ruin, and was succeeded, in 1655, by the higher gymnasium of Stuttgard.

new ones with larger salaries, made an increase in the income of the university urgently necessary, but no aid could be obtained from Duke Ulrich, except tithes to the value of about 434 florins a year, made up to 600 florins from the public treasury; an addition quite insufficient.

The gross income of the university was about 5,378 florins, from which deducting expenses of management and incumbrances on some of the estates, amounting to 2,197 florins, the balance for the expenses of the university is only 3,181 florins, of which, (in 1540–41), 2,493 florins were paid in salaries to the twenty-three teachers.* These salaries were mostly very small, a very few of the highest, reaching 200 florins, the rest being of 160, 140, 120, 80, and 40 florins.† Those of the faculty of arts, except a few, had at most 80 florins, but with lodgings rent free, though they were required to live unmarried. The professors might also buy wine and fruit at low rates from the university stores. They might not receive any lecture fee, except for private instruction. Perquisites accrued to the jurists, for giving opinions on cases in the courts, and to the medical professors from their annual visitations to the apothecaries' shops and lepers;‡ and in the faculty of arts, from promotion fees.

Salaries of instructors were the only regular expenditures of the university for educational purposes; as there were no special scientific collections or organizations. Consultations were frequent about replacing the library, burnt in 1534, and the duke promised books from the discontinued monasteries; but no money seems to have been spent for the library either by the university or the government, for a long time.

The amounts paid to the financial officers were trifling; but their traveling expenses, dinners and drinking-bouts, (*Untertrünke*), cost quite a sum. After the frequent journeys to collect tithes, for instance, it was usual to have an *Untertrünk*. Dinners were often made, also, on occasion of important transactions, especially at balancing accounts, at which the whole senate was frequently present; and the same at the half-yearly reading of the statutes, the election of rector, &c., all at the expense of the university. Although the whole senate could be feasted for a few florins, the entire amount thus spent was quite large.

* The income of Wittenberg, was, in 1532, 4,711 thalers.

† At about this time, Luther had at Wittenberg, 300 florins. At Heidelberg, in 1558, after being materially increased, the salaries of the theological professors were from 160 to 250 florins, and of the others, 120 to 150 florins. Twenty years before, the celebrated Hermann von Buscheck, but 80 florins; Grynäus, 60 florins; Seb. Munster, 25 florins; Micyllus, 60 florins.

‡ These annual visitations were an official duty of the medical professors.

Expenses by way of honorary gifts, and to sustain the reputation of the university, were also frequent. If a foreigner of learning or a graduate who had attained civil or ecclesiastical eminence, came to Tübingen, he received some measures of malmsey or other good old wine from the university cellar, or an honorary present in money;* or was invited to a banquet in the university, with the senate.† If a professor's son or daughter was married, a wedding present of from 2 to 4 ducats was made; if a member of the university published a book and presented a copy to the senate, he received 8 or 10 thalers, or if special honor was intended, a silver pitcher. Thus, while close economy was practiced in salaries and educational expenditures, quite the opposite was the case when the object was to represent the the corporation, or to pass a day of genial social festivity (*bei einem guten Trunk einen vergnügten Tag zu machen*).

Establishment of the "Theological Foundation."

This establishment, organized after the pattern of one previously existing at Marburg, was the most important benefit which occurred to the university from the reformation; richly supplied Wirtemberg with clergymen and teachers, and made Tübingen a leading theological university.

It was supported by annual payments from the parish treasuries, according to their ability. Two God-fearing men, one from the citizens and one from the university, had charge of the funds. Each beneficiary received 25 florins a year, of which 18 were reckoned as the expense of board. A provost or steward (*Hausvater*) had charge of the boarding arrangements, and was to see that the living was decently good. The necessary corn and wine were to be furnished at a moderate price, from the ducal granaries and cellars. The rector, the high bailiff of Tübingen, and the mayors (*Bürgermeister*) of Stuttgart and Tübingen, were to audit the accounts, and to act as general supervisory authority over the institution and pupils. Each beneficiary bound himself to study only at the university of Tübingen, and to labor within the duchy of Wirtemberg.

After some years of difficulty arising from insufficient oversight and loose habits among some of the beneficiaries, the senate of the university, at first unfriendly to the foundation, from fear of its trenching on their privileges or income, consented to take charge of it, and

* Thus in 1605, when Prof. Menzer of Marburg came to Tübingen, the rector put it to vote in the senate, what should be done to honor him. It was decided to invite him to a supper (*coenula*); and as he declined this in consequence of a prior invitation from chancellor Haffenrefer, they sent him two measures of malmsey and sugar.

† When the exiled patriarch of Constantinople was visiting Crusius in 1600, the senate complimented him with three Hungarian ducats.

rented half of the *Burse* building, to which the pupils, 39 in number, were admitted in May, 1541. Three however were excluded because they were married, two for insufficient attainments, and for bad character. Two masters were put in charge, one called *magister domus*, and acting as a superior to the steward, and the other, called *preceptor*, to conduct the studies. Both were to live in the *Burse*, be present at meals, and to drill (*repetiren*) the beneficiaries on the lectures an hour daily.* A beneficiary had 6 florins salary for giving directions to new comers.

As to interior arrangements the stipendiaries were admonished not to forget that they lived on alms. At rising—in summer at four, and in winter at five—they offered a special prayer for the duke, in consideration of their benefits from him. At dinner the Bible was read, and at supper some historical book; and after eating they might walk, or indulge in any proper sports. All must be at home by eight at night in summer and seven in winter, and delinquents were deprived of their wine. Imprisonment in the *carcer* was inflicted for attending dances and drinking-bouts. The ordinary side-weapons were allowed only on journeys. The letter of the statutes permitted the younger pupils to be whipped with the rod. One, named Gabler, left because he had been well whipped several times; and another from fear of it.

Condition and finances of the University after the introduction of the Reformation.

Little alteration was made by the reformation in the constitution of the university. A change became necessary in the chancellorship. The chancellor was originally the representative of the Pope, and one of his especial duties was to sanction in the Pope's name the giving of academical degrees. Ambrosius Widmann, the chancellor for the time, had at the beginning of the controversy fled to Rotenburg to avoid it, and also to make a difficulty for the reformers. A long series of negotiations followed, but without inducing the obstinate Romanist either to resume his functions or to delegate them; during which either no degrees could be given, or those actually conferred were not recognized by other universities; and when valid ones were once more conferred, they were sanctioned no longer *apostolica auctoritate*, but in the name of the state; *auctoritate publica et ordinaria;* the civil government, by an application of the reformed principles, taking the place of the Romish See as supreme authority.

It also followed on the same principles as applied to the university, that it ceased to be an ecclesiastical corporation, and had to be reor-

* This was substantially the same duty as that of the present French *repétiteur.—Trans.*

ganized as a secular one, the government assuming an increased share in its regulation and internal management. Thus, the duke now approved the choice of theological professors, as having the right to appoint them to their canonries &c.; a ducal ordinance designated adherents of the Augsburg Confession and persons of experience in church matters in Wirtemberg, as the only ones from whom to chose them, &c., &c.

The disqualifications and disadvantages of the faculty of arts were under the new regime gradually to some extent removed.

An important part of the constitution of the university consisted in the privileges of its officers, such as an independent legal jurisdiction, freedom from tolls and taxes, independent control of the university property, &c. There were some other minor privileges, not found mentioned until after the reformation. Thus the professors might retail a certain quantity of wine. When this privilege was granted is unknown; but it existed and was ordinarily exercised, and occasioned sundry controversies with the town. It was at last agreed, in 1541, that each university official might bring into the town, free of toll, what wine he needed for household use, also what grew on his own property, and if he kept house, thirty casks more per annum, to sell at wholesale or by the glass. The town government frequently complained that this permission was abused by the introduction of an excessive quantity on pretence of storing it up, &c.

The privileges of the university officials as to the acquisition of real estate were also diminished, by an ordinance of 1545, permitting each, besides what he might receive by inheritance or marriage, to own a house and barn, and if a professor, 300 florins' worth, and if any other official, 200 florins' worth of lands. The higher limit was afterward raised to 400 florins. Each official was also allowed pasture for two cows and two goats.

The special privileges of the senate as to inheritance led to a long and angry controversy between that body and Duke Frederic I., arising from his promulgation of a new code whose application to the university was resisted. They were, however, at last obliged to conform to the law of the land.

Under Duke Frederic, the university received a new set of ordinances, and new faculty statutes, but with no essential change. Among the more prominent, were a requirement that all the teachers of the university should subscribe to the "*Formula Concordiæ*," and the appointment of a regular commission for visiting the university; a mark of the increasing control of the government, and first introduced at the reformation.

The ordinance of 1601, gave the senate privilege of censorship The printers were forbidden to print any theological tract or controversial writing, until it had been passed upon by the senate. Disputations, orations, and wedding or funeral sermons, were to be submitted to the chancellor, or to the dean of the theological faculty. The other faculties decided upon publications within their respective departments, or if thought necessary, referred to the members of the visitatorial commission. Nothing might be reprinted without the knowledge and consent of the former printer, or the permission of the senate.

Toward the end of the sixteenth century, the salaries of the professors were much enlarged, although the property of the university did not increase. Thus, Frischlin, while not yet ordinary professor, received, in 1575, 174 florins. Various additions were given, also, in kind. Thus medical professor Mögling, in 1616, received 210 florins salary, 26 florins senatorial allowance, 15 florins allowance for rent, 12 florins wood money, 32 bushels spelt, 4 bushels oats, and six casks (*Eimer*) of wine. In the next year, the income of the university was 15,886 florins in money, 6,000 bushels spelt, 600 casks (*Eimer*) of wine, and a large amount of other produce; the expenditure 12,000 florins. This increase resulted from improvements in the property, and the rise in the price of produce.

Great carelessness and peculation often prevailed among the financial and other officers, and occasioned many severe reprimands from the visiting commission. Thus, five per cent. was the usual deficit of the income payable in corn, and often more. Great quantities of wine were also embezzled. The coopers, &c., drank without limit, and much was taken on pretence of filling up casks. In 500 casks, a deficiency of eighteen was thus found. The rector, chancellor, four deputies and syndic, each used to take two measures from each wagon-load as it was brought in; which, to save appearances, they commonly drew in the cellar after storage, and rather more than their share. Any remainder after distribution to the various officers of their shares, &c., was not stored or sold and the proceeds invested, but divided among the senate, and various other impositions of the same kind were practiced, by embezzlement, bribery, &c., both in the grain and wine department, and upon the cash in the university treasury.

The Thirty Years' War, seriously decreased the property and increased the debts of the university; and we find the expenses estimated in 1652, at 7,800 florins cash, 1,400 bushels spelt, 140 bushels rye, 450 bushels oats, and 200 casks wine.

Literary Condition after the Reformation.

The theological faculty soon recovered from the dubious condition

into which it fell at the introduction of the reformation, and rose to a position of great influence in the theological controversies of the period. Beurlin, Heerbrand, Jacob Andreä and Stephan Gerlach gained great renown in the army of Protestant orthodoxy. It is true that they failed to win permanent reputations, because they neither established any new principle, nor any peculiar modification of the Protestant system. They were only close followers of the scholasticism of Lutheran orthodoxy; but they acquired great influence in the church, by vindicating their belief against any real or fancied variations, with vigorous and unwearied polemic efforts. In most of the theological controversies, conferences and attempts at union, of the second half of the 16th century, we find Tübingen theologians in the first ranks of the combatants. Jacob Andreä, one of the most influential Protestant theologians of his day, especially distinguished himself by energetic labors and travels throughout Germany, by means of which he succeeded in gaining the assent of a majority of the German princes and theologians to the "*Formula Concordiae*." This creed, adopted in 1581 by three electors and twenty-one princes, became the rule of faith for the church of Wirtemberg, and was required to be subscribed not only by all holders of offices in the church, but by all the professors of the university.

These and the other Lutheran champions made Tübingen a chief arsenal of the militant Lutheran orthodoxy, which prevailed in Wirtemberg with so much exclusiveness that it was not inappropriately termed "the Lutheran Spain." The university requirement of strict orthodoxy was extended even to the students. A visitatorial rescript of 1584 complains that there are many foreign students who privately and publicly advocate Calvinism; which causes many parents to be troubled lest their sons should be perverted from the true faith; and therefore requires a watchful eye to be kept upon these, and the proper means of correction used, or that if obstinate and irreclaimable they be dismissed; as the duke will not endure Calvinism or any other harmful error at the university. In 1593 and afterwards the theological faculty were required, after the Frankfort fair, to examine the book-stores, lest any sectarian books may have crept in, and Calvinistic ones especially, as those of Calvin, Beza, Pezelius, Aretius and Piscator.

The juridical faculty was not so prosperous during this period, which was indeed not a flourishing one for the study of law in Germany, although in France illuminated by the fame of Cujacius. Several of the jurists of Tübingen, as Nicolaus Varnbüler, Mathæus Enslin, Christoph Besold, were men of some eminence both in the university

and in the state; but their mode of instruction was a frequent subject of reproof from the visitatorial commission, for diffuseness and prolixity of lectures, omission of the prescribed disputations by the students, and their neglect of juridical studies for political ones. Professor Johannes Halbritter, for instance, was found fault with for occupying two whole years with his course on the two first books of the institutions; and ordered to get through the whole work in two years. He remonstrated, saying that at least three were necessary, but some years after we find only one year allowed for the course on the Institutions.

Similar complaints that the students neglected jurisprudence for "*studium politicum*" were made, from 1605 to 1609. This term included subjects of national finance, civil and ecclesiastical administration, proceedings against heretics, &c. The modern authors used on these subjects were especially Justus Lipsius, Bodin, de Thou, and Æneas Sylvius, and the period of history searched for materials was that of the Roman and German empires. Of Macchiavelli, the chief politician of the time, few traces appear.

Disputations on theses from the portions of law under consideration were contrived, for the sake of relieving somewhat the dryness of the study, and the professors were exhorted to make them acquainted with its practical applications, by proposing cases for their decision, and conversing on them.

The medical faculty fills quite a subordinate place during the same period; and they confined their instructions to expositions of Galen and Hippocrates. The extent of their independent investigations of nature may be judged by the fact that, in 1588, the faculty, on being admonished by the visiting commission to institute anatomical lectures, replied that they would have such holden as often as they could procure a *cadaver*. This was difficult, as no law provided for procuring any, and the students, if they desired to have a dissection, had to contribute money to procure a corpse from some executioner.

There was no botanic garden. Leonard Fuchs appears to have had a private one, but no trace of any appears afterward. For studying botany, apparently the favorite natural science, the professors were directed to take the students into the fields and show them the herbs and simples.

It is a significant index to the condition of medical science at the period, that various professors shifted from the philosophical to the medical faculty, and vice versa. In fact, medicine was in theory only physics and metaphysics, as exegesis a philology of Galen and Hip-

pocrates, and as practice no application of any theory at all, but mere incoherent quackery.

During this period the faculty of arts or philosophical faculty remained in a quite subordinate relation to the other faculties; a position which could not but influence its prosperity.

A detailed course of study was prescribed for this faculty in 1557, by which the first class of the Pædagogium was to study Melanchthon's Grammar, Cicero *De Amicitia*, Virgil's Bucolics, with industrious study of prosody, and reading and explanation of Terence; and in Greek, every day half an hour of grammar, and half an hour of Xenophon. For the second class, are prescribed Cicero *De Officiis*, and his orations and letters; and Linacer is recommended as the best grammar. The Greek grammar and Xenophon are continued. The third class is to study Melanchthon's Dialectics and Rhetoric, Cicero's Orations and Letters, and in Greek the Philippics of Demosthenes and Xenophon's Cyclopædia; and the fourth, Aristotle's Organon, Rhetoric, and *Partitiones Oratorias*, Cicero's Orations, and mathematics. All the classes were also to write on given subjects weekly, and examined and drilled on Saturdays in Ciceronian phrases.

For the university lectures proper, in arts, were recommended "the most celebrated and excellent authors, such as Homer, Hesiod, Euripides, Sophocles, Demosthenes, Plutarch and Xenophon." No particular authors are named for Latin, which seems to have been finished in the Pædagogium. Melchior Volmar, however, lectured on that language daily. Hebrew was taught alternately in this and the theological faculty.

Besides the languages, lectures were delivered in the faculty of arts on the following subjects: dialectics, rhetoric, the ethics, physics and organon of Aristotle, geometry, arithmetic, spherics, and *theoria planetarum*. In music, an instructor from Nuremberg was invited, who was to lecture and drill the students, under the regulations of the faculty. History was not a distinct study, but was only a collateral department of the professor of *litteræ elegantiores* or of rhetoric.

The studies in this faculty were feebly taught, and its internal administration confused and disturbed. Complaints were made at different times from 1560 to 1630, that the instruction in Aristotle's Dialectics and Organon was inefficient; that the *lectiones classicæ* were taught *exiguo fructu*, and with too wire-drawn expositions, more than six months, for instance, being used on one book of Homer; that the exercises in style were not thoroughly taught, and that the historical lectures went on sleepily; that the instruction at lectures, disputations and declamations, covered too much ground, and was

wearisome; that the ethical and political portions of the old writers were taught, to the exclusion of Latin and its elegances; that a contempt for logic prevailed, and that its true use was not taught, but metaphysics and real knowledge confused together.

Special institutions connected with the University.

The theological "*Stipendium*" or foundation, during the present period, became a prosperous and important institution. Its purposes were especially promoted by Duke Christopher's organization of many of the sequestered convents into preparatory schools for theological study. These schools received boys of fourteen or fifteen years old, and taught them for three years, when if fitted they entered the *Stipendium* at Tübingen. In these schools there were two teachers, one for the study of the Scriptures, and the other for rhetoric and dialectics. Especial attention was paid to Greek and Hebrew.

The theological foundation was reorganized in 1557, with some changes. With it were also connected the foundation of Michael Tyffernus, for four sons of poor and pious parents, whether natives of Wirtemberg or not, desiring to study theology in Tübingen, and that of Count George von Mömpelgard for ten beneficiaries from Mömpelgard, Reichenweiher and Horburg. Among the students of the theological foundation at this period, were Egidius Hunnius, the Wittenberg theologian, and Johann Kepler, the astronomer.

Much disorder and rebellious conduct prevailed at various times among the students on the foundation; but the Thirty Years' War, by crippling its income, cured all these difficulties by almost extinguishing the *Stipendium* itself. As prosperity returned, however, after 1648, the disorders came back with it.

An organization intended by Duke Christopher to do for the State nearly what the *Stipendium* was to do for the church, was the *Collegium illustre*, established by him in 1559, to educate sons of Wirtemberg noblemen from their ninth to fifteenth year, appropriating 20 florins a year to each. If hopeful pupils, they were then to receive 40 florins a year until the age of twenty, as students in the university, with free lodgings; and then ten of the best each year received 100 florins a year for three or four years to be expended in traveling for their improvement. They were bound to enter the duke's service if required, and he was to select his councillors and high officers from among them.

But Duke Christopher's son and successor, Duke Ludwig, entirely broke up this scheme, and transformed the *Collegium Illustre* into a mere independent, aristocratic school of proud, idle and debauched

young noblemen, as well from Wirtemberg, as elsewhere, who instead of the regular university course, pretended to debate questions of polity, finance, economy and government, but were ringleaders in all the iniquities of the students, and a pest to the university. Both the instructors and pupils were quite independent of the university jurisdiction; a sufficiently ill-judged arrangement. The greatest prosperity of the *Collegium Illustre*, was at the beginning of the seventeenth century. In 1599, its students included eleven princes and sixty noblemen; in 1606, nine princes, five counts, and fifty-one other nobles. In all, thirty-six reigning princes pursued their studies there. The Thirty Years' War rendered it necessary to close the *Collegium*, which was afterward re-opened, but never regained its former prosperity.

Besides these two ducal foundations there were various private endowments, for furnishing lodging and board to their beneficiaries. Such was the *Martinianum*, founded in 1514, by Martin Plantsch, theological professor, and George Hartsesser, dean in Stuttgard, to supply eighteen students with board and lodging, in a house occupied for the purpose. It was for poor young men of good talents and character. During the sixteenth century were founded various family endowments, for some seven or eight additional students to be accommodated in the Martinianum; namely, the Farner, Lemp, Gockel, Mendlin, Vogler and Pfluger foundations; and in the following century, those of Laubmaier, Drach, Hallberger, Dempsel, and Ziegler. The most important gift of this kind, was that of Criminal Procurator J. M. Fickler, of 9,000 florins, invested to support nine beneficiaries of the founder's family, in a separate house.

The *Hochmannianum*, founded in 1603 by J. Hochmann, professor of canon law, was another similar foundation. Another, and a quite important establishment, was the endowment of professor Gremp von Freudenstein, established by his sons-in-law after his death in pursuance of his wishes (he left no sons); for the descendants of himself, his brother Dionysius Gremp, and his cousin, Hans Conrad Gremp, councillor to the Margrave of Baden. This was endowed with 20,000 florins, and was to educate the beneficiaries in all desirable studies, up to their twenty-fourth year. A foundation library was also provided for. The allotments from this fund were, at first, fixed at 60 florins a year, from 10 to 16 years; during the philosophical course at Tübingen 70 florins, in the other courses 80 florins., and at other universities 120 florins. This endowment grew important in the course of time, and some of the families entitled becoming extinct, and others remaining small, the capital, notwithstanding losses in war, in 1823, was 175,000 florins, and in 1849, 230,000 florins;

from which each member of the families of Gremp von Freudenstein and Leutrum-Ertingen is entitled to receive during a course of education of eighteen years, 9,600 florins.

The sum set apart to increase the Gremp Library was fixed, in 1804, at 200 florins annually. The books may be used by the foundationers, by the university instructors, and, on permission of the administrator, by others also.

Morals and Manners, Reformation to Thirty Years' War.

The condition of morals and manners at the university during this period, was almost inconceivably debauched and brutal. Street fights between students and citizens, with stones, swords, halberds and lances, the most excessive orgies of drunkenness, organized rebellions by the students, murders, stabbings, the grossest licentiousness, befoul the pages of the university history to an inconceivable degree. Dueling however seems to have been scarcely practiced until after the Thirty Years' War. Too many of the professors were involved in similar vices. They did not mingle in the students' drunken-bouts, street fights and nocturnal riots, but were sometimes almost openly licentious, very commonly addicted to the excessive use of wine, and often permitted the most disgraceful disorders to creep into their own families, invoking the aid of the senate to constrain a scolding wife, or a rebellious child, or to enforce reparation for the lost honor of a daughter.

A corresponding looseness and extravagance naturally prevailed in eating, and in dress; on which subjects frequent regulations were made, but to little purpose. Wine was remarkably cheap at Tübingen, but every thing else very dear; so that a student's total expenses seem to have been, for instance, quite double what they were at Marburg.

Some traces of the organizations called "Nations" and "*Landsmannschaften*" appear, but no details. The practice of pennalism seems not to have been so extremely abused here, as at most other universities.

The first actual contact of the university with the Thirty Years' War, was in May, 1631, when a report was brought in that six hundred musketeers were on the march to rob the convent. There was great fright, money and jewels were hidden, and the university plate sent to the syndic's house; but the alarm proved false. But during the July then following, a detachment of the imperial army was quartered in Tübingen, and from that time until the peace of Westphalia, the university was oppressed with unrelenting extortions in the name of contributions, both by Swedes and imperialists, chiefly the

latter, however, who squeezed the unfortunate institution with a special delight on account of its notorious and rampant and not very tolerant advocacy of a stiff Protestantism. Important portions of its estates were also sequestered, it was forced to admit a Catholic to the deanship of St. George, and was plagued with public discussions by Jesuits, who strove zealously, under imperialist protection, to reëstablish Catholicism in the "Lutheran Spain." These impositions almost destroyed the university, and almost starved its instructors, who lost either most or all of their incomes for the time being.

III. FROM 1652 TO THE ACCESSION OF DUKE CHARLES, 1737.

Literary Condition.

The Thirty Years' War inflicted great injury upon the university. Sickness and trouble destroyed many of the professors, fourteen dying from 1634 to 1638. The number of students decreased proportionally, the young men being employed in military service, and those who grew up in their places not acquiring any taste for literature; so that it was not necessary to fill the vacant chairs. The professors who remained were impoverished by the excessive contributions levied, and their means of pursuing their studies thus lessened. Many of them had also become corrupt in morals; for at the first visitation after the war, we find complaint made that the professors were in the habit of spending whole nights in the "university house," or at the beadle's, gaming, drinking, and rioting.

The university seemed in danger of entire ruin; but not only survived, but rose to increased eminence. Duke Eberhard III., and his councilor, Nicolaus Myler von Ebrenbach, were efficient patrons of it, and gradually its vacant professorships were filled, the salaries newly regulated, and the different foundations reorganized.

Theology was during this period, as well as the previous one, a science of controversy; and proficiency in it was measured not so much by profound investigation and broad comprehension, as by skill in polemics. Among the most eminent of the Tübingen theologians during this period were, Tobias Wagner and J. A. Osiander; as well as Wölflin, Häberlin, Raith, Keller, and Foertsch. Of these, Wagner held the place of *professor controversiarum;* and it was his duty to go through all the current points in controversy, and after stating the opposite arguments, to give a written decision of them.

In 1700, the theological studies were laid out on the following plan: the *professor controversiarum* was every year to refute some one class of adversaries; the *professor theologiæ theticæ*, to go at least once a year through the compendium of theology (that of J. W.

Jäger, was then in use), and examine his auditors upon its contents; the dean was to read each year upon one of the books of the Old Testament; the professor of the New Testament, each year on one at least of the Gospels, some practical lectures (*collegiæ practica*) were also to be given, to instruct the students in an edifying style of preaching, and in an easy mode of catechising. Professor of morals Hochstetter, and *magister domus* Hiller, were to have charge of this department, and to lecture on any Saturday's when the ordinary professor was prevented by preaching or confession.

The inaugural oration of the chancellor C. M. Pfaff, in 1720, affords a view of the general character of theological studies in the first quarter of the eighteenth century. He complains bitterly that the theological students busy themselves exclusively with the bread-earning part of their studies, without acquiring any sufficient preparation in philosophy and philology, and without any deep practical knowledge of divine truth; and that the consequence is a dry and unedifying character of pulpit speaking, a purely theoretic theology, and the entire devotion of their zeal and energy to the persecution of those who vary in the least from the precise standard of orthodoxy, with the view of proving them hetrodox or heretic, indifferentist or syncretist, when they scarcely know themselves what indifferentism and syncretism are.

Besides the theologians above named, should also be mentioned J. C. Pfaff, father of the chancellor, J. W. Frommann, G. Hoffmann, and C. E. Weismann. Chancellor Pfaff was the most eminent of them, and had a European reputation.

The predominance and character of the theological studies of this period threw the philosophical faculty quite into the background. Its studies were regarded as little more than preparatory to the theological course. Very many studies which should supply the various parts of a general liberal culture, such as philology, history, ethics, languages, mathematics, &c., were, for the most part, carelessly or superficially taught and studied.

But the faculty, richest in distinguished teachers during this period, was the juridical. The most eminent of these was Wolfgang Adam Lauterbach, one of the greatest jurists of his time, a favorite instructor, and the author of the "*Collegium Pandectarum*," published after his death, and long in great repute. Others were Erich Mauritius, F. C. Harpprecht, Schweder, Scheffern, and Schöpff.

The high reputation of the Tübingen jurists however occasioned them to be so much occupied in consultations and drafting opinions on questions of legal practice, that their lectures were negligently

prepared, and their students, in consequence, fell into very irregular habits, being also much corrupted by the debauched example of the young nobles of the *Collegium Illustre*.

The medical faculty was in a wretched condition, consisting for a time only of Johann Gerhard, much employed as a practitioner, but of little eminence as a man of science, and Samuel Haffenreffer, now an aged man, of whose instructions nothing is known. There was neither a school of anatomy with a supply of bodies for dissection, a botanic garden, nor a hospital. After a long resistance from the professors, who wished to use the space for a pleasure ground, a botanic garden was laid out, but even then was not completed for twenty years. Even so late as 1725, it was thought remarkable that Prof. J. G. Gmelin, then a student at Tübingen, had been able to be present at the dissection of two corpses. During the latter portion of this period, however, this faculty rose to a somewhat higher celebrity, by the exertions of some eminent professors, G. B. Mezger, E. R. Cammerer, B. D. Mauchart, Alexander Cammerer, J. Zeller, &c.

Special Institutions.

1. *Collegium Illustre.*—This institution, which was quite closed during the war, was afterwards reopened, but was attended by a decreased number of princes and noblemen from abroad. The management of the institution was now somewhat less disconnected from that of the university, the chairs of instruction being sometimes filled by professors; and the senate in one case at least formally protested against an appointment in the Collegium of one Lang, an enemy to the university. The salaries of instructors here were however much smaller than those of ordinary professors.

2. *Evangelical Stipendium.*—This institution increased after the peace so rapidly that it became necessary to enlarge the building. In 1667 it contained 213 persons in all, of whom seven were "repetents," 188 students, five proselytes, twelve officials and *famuli*, (students paying their expenses by menial services,) and the *magister domus*. The proselytes were refugee monks; but were mostly worthless fellows.

The institution suffered a temporary inconvenience in consequence of the French invasion in 1688, but only for a short time. In 1704, a separate statute book was drawn up for the *Stipendium*, of the same general character with the university code, and containing many stringent regulations as to studies and deportment. The immediate charge of the students was intrusted to the repetents, who were chosen no longer from among the masters who were still pursuing their studies, but from those who had completed them, and who

were eminent not only for attainments in learning, but for prudence and good character. They were to watch over the general condition of the *Stipendium* and to report on it, and to hold a *repetition* at least once in eight days, in theology and philosophy, on the basis of the authors used in the lectures.

There were many regulations for maintaining good conduct and morals, such as the prohibition of drunkenness, gaming, dancing, smoking and licentiousness. All unnecessary luxury in dress is forbidden, such as silk waistcoats, red and blue hose, &c. A wig was allowable only when the physician prescribed it. At table all must wear a cowl; a relic of monkery which was not agreeable to the students, and maintained for the sake of preserving something of the conventual discipline. Many other regulations were made on very insignificant points, rather for the sake of keeping up the same obsolete order of things than for any especial moral influence.

3. *Private foundations.*—No particular change took place in these during this period. The Martinianum and the Fickler foundation together occupied a new building.

Morals and Manners.

The moral condition of the students would naturally be somewhat unsatisfactory, as they had grown up under the unfavorable influence of the Thirty Years' War. But the visiting commissioners found it necessary in 1652, to administer to the professors also a reproof for their frequent debaucheries and gaming in the university house. It is characteristic that in the same report, these same professors are praised for their pure and correct orthodox belief.

Detailed testimonies to the condition of matters among the students are wanting; but there remain so many records of proceedings in cases of tumults and other excesses, that there can be no doubt of the coarseness and brutality that prevailed. But the previous kind of fighting was now more and more displaced by the practice of dueling, which began to come in about the end of the period before this, and which was now a standing article in disciplinary investigations and proceedings. Many enactments were made for the prevention and punishment of the practice, by dismissing principals and otherwise punishing other partakers, &c.; but with no important result. The first important investigation on the subject was in 1657; when the parties were punished with eight days imprisonment and twelve reichsthalers fine, and the seconds with six thalers fine. Mrs. Professor Gerhard was concerned in this affair, the quarrel which occasioned it having arisen at her house. She was summoned before the

senate, but examined privately by Profs. Lauterbach and Haffenreffer. She was fined ten reichsthalers and forbidden to keep boarders; it being thought improper, as her husband was so much absent from home, and unable to see what was going on there. Mrs. Gerhard complained bitterly of this decision, saying that she had much wine in her cellar, which she could not pour into the street, but must keep boarders to drink it out, unless she was to be deprived of her living. And she said that there were disturbances at other boarding houses, without causing them to be prohibited.

There were many similar investigations during the next ten years, but, on the whole, dueling does not seem to have been more frequent at Tübingen than at the other universities; and none of them were fatal. Very noticeable lenity was used toward sons of eminent persons or nobles in punishing for this reason.

There were also other disturbances, such as extended feuds between the stipendiaries and the other students, and the students and the servants of the nobles in the *Collegium Illustre*. Other disorders and licentiousness seem, on the whole, to have somewhat decreased during this period, except in the first ten years of it, when we find among houses of evil repute that of Mrs. Prof. Harpprecht, whose three daughters had a most undesirable reputation. In 1658, some stipendiaries were rejected because they frequently visited the Misses Harpprecht.

The boarding houses kept by many of the professors, and their retail wine-selling business, occasioned much social intercourse between them and the students. This wine trade also caused many complaints from the citizens, with whose business it seriously interfered. Beer seems to have been also frequently drank. Tobacco smoking was apparently introduced about 1660, and was first prohibited in the *Stipendium*, on penalty of imprisonment and dismission.

There are no very distinct details, but some few traces of the existence of students' societies, orders, and Landsmannschaften. We find the senate prohibiting "Garlands," "conventicles," and "kingdoms." These last were undoubtedly regular organizations for social debauchery, with a king at the head, officers, and codes.

The origin of the orders, and of the grades, derived from Pennalism, of Fox, Bursch, Mossy-Head, and Gold-Fox, is doubtless quite ancient; and here we are to look for the rise of very many of the fantastic-student usages, the comment, and the dueling practices.* When the gradual amelioration of manners extinguished the evils of

* For an account of Pennalism, see Barnard's "*American Journal of Education*," Vol. VI.

Pennalism, its custom of abuse of the "Foxes" or freshmen remained longest in the theological *Stipendium*, where, according to old custom, they were made to perform all manner of menial services.

IV. FROM THE ACCESSION OF DUKE CHARLES TO THE CHANGE OF THE UNIVERSITY INTO A STATE INSTITUTION, 1737 TO 1811.

New Statutes under Duke Charles.

The interest taken by Duke Charles in the university, marked the beginning of a new epoch, about the middle of the last century. He gave the university many new regulations, but without introducing any essential change in its constitution.

With the view of enlarging the attendance, he enacted by an ordinance of July 24, 1744, that all youths intended for learned studies, should either pursue them at the university of Tübingen, or should at least study there for some years. And those who have now been studying abroad, or shall hereafter do so, were to present at Tübingen such a public testimonial (*specimen studiorum*) as may enable their native country to know what their studies have been. This is the first trace of any state examination to succeed the completion of a course of study. Other new regulations were intended to increase the efficiency of instruction, and the industry of both students and professors.

Such were reproofs of the careless and neglectful mode in which the professors labored; prohibitions of the common practices of dictating a lecture, reading some printed treatise in place of it, heaping up a mass of references and citations, and quoting authors not obtainable by the students, &c., &c. The censorship on matter to be printed by members of the university was confined to the respective faculties, but they were admonished, in all cases where practicable, to negotiate in a friendly manner with the author for the change of objectionable matter instead of proceeding publicly.

In order to remove the common complaint that the expenses of living at Tübingen were remarkably high, the senate was ordered to refrain from all unnecessary expenditures, such as printing the numerous poems of congratulation, condolence, &c., the "opposition dinners," ridings-out and receptions of boarding housekeepers, professors and students, costly processions, music for the rectors, &c. The students were to be prevented from giving so many presents, and expending so much money at weddings, visits, and with female acquaintance, &c. An earlier statute forbidding any landlord from trusting any one to the amount of more than ten florins was renewed.

The ordinance of 1744 was followed by a fuller one of 1751, new statutes in 1752, and another revision, with additions, in 1770; from

which we quote the fees for private lectures and the doctor's degree. A half year's theological course cost three florins; a juridical course, on the pandects, (two hours daily for a year,) eighteen to twenty florins; on the institutions, or on church, feudal, criminal or common law (*Landrecht*), eight florins; on practice and law of nations, ten florins. A course on medicine cost six florins, on anatomy nine florins. If the number of hearers was too small, the medical lecturer might collect from fifty to sixty florins for his whole (half year's) course; or for a pathologico-practical course, lasting a whole year, from 100 to 120 florins. In the philosophical faculty only two florins were ordinarily paid for a half year's course, but in mathematics one ducat; for a course on the history of the German Empire six florins, but for one on universal history only two florins. An examination for a licentiate's degree cost, in the theological and medical faculties, for a native, ten ducats; for a foreigner, fifteen ducats; in the juridical faculty, seventy-five florins. The doctor's diploma cost sixty florins. At a disputation, the Præses was to be paid twelve florins, and three florins was also charged for each sheet of the disputation. If, however, the candidate had drawn this up himself, he need only pay the professor one florin per sheet for revising it. The degree of master in the philosophical faculty (master of arts) was somewhat cheaper, costing two florins, besides thirteen florins, fifty kreutzers to the funds of the faculty, and six florins for the subsequent dinner.

Personal relations of Duke Charles to the University.

Duke Charles showed an active interest in the university by often visiting Tübingen, for weeks at a time, and by taking part in various ways in the oversight and general discipline of it. Sometimes he attended the lectures of the professors; he allowed himself to be chosen rector during a number of years; he provided for various scientific departments which he observed to be wanting, such as an observatory, a chemical laboratory, an anatomical room, means for preserving the library, and an apparatus for experiments in physics. At these visits of the duke, he was received with much pomp, and his presence caused much excitement and occasioned much show, and many balls, concerts, &c. To all these many professors and students, the theological stipendiaries especially, were invited, and with them the duke took pleasure in much intercourse, both sportive and earnest. At the celebration of the third university jubilee in 1777, there was a remarkably magnificent display, with a procession, orations in many languages, banquets, disputations, &c., &c., extending over eight days. The honorary gifts to the university on this occasion, consisted not of rich drinking vessels, but of books; the city of Tübingen giving the

"*Museum Florentinum*," the Estates giving Dumont's "*Corps universel diplomatique du droit des gens*" and Rymer's "*Fœdera*," Esslingen, Baronius' "*Annales Ecclesiastici*," and Stuttgard, Sandrart's "*German Academies*," "*Weisskunig*," and several other works.

But the duke's interest in the university did not always continue. An independent corporation, not entirely under his authority, was not according to his taste; and he therefore founded another institution, which he could organize and manage entirely according to his own views. As this institution grew up, and was in 1781 made a university by the emperor Joseph, the duke entirely lost his affection for the University of Tübingen, to which there thus arose a dangerous rival. The number of students gradually fell from 311 in 1775, when the Charles Academy was transferred to Stuttgard, to 188 in the year 1791. This decrease appears still more remarkable on deducting the number of students from the city on the theological foundation; after which there were, in 1791, of jurists, only thirty-one; medical students, seven; and philosophical, two. Repeated applications were made to the duke by the university and the city authorities, but in vain, and matters remained in the same condition until the death of the duke, and the discontinuance of his academy by his successor.

Literary Condition.

An important document of the year 1751, serves to mark nearly the period of the introduction of a new kind of instruction in philosophy into the university, to wit: not in metaphysical speculation, but a rational treatment of empirical departments of learning, of those especially which admit of application to common life, state management, and industrial pursuits. This kind of philosophy was naturally a grief to the old professors who had stiffened in the ancient literary pedantry of their department, and it is no wonder that they earnestly warned the students against the lectures of the talented young professor Bilfinger, who had expounded the new views, and that they took great satisfaction in drawing off his hearers. The professorship of philosophy, vacated by the death of Bilfinger about a year before the date of this ordinance, was however filled by Gottfried Ploucquet, a man of the same school.

In 1750 a distinct professorship of history was established, and filled by the appointment of O. C. Lohenschiold; and C. F. Schott was, in 1752, made professor of poetry and eloquence, with which history had previously been connected.

The professorship of Greek and oriental languages was somewhat feebly filled during this period. Mathematics was better taught. An astronomical observatory was established in 1752 in one of the towers

of the castle, and fitted with very good instruments for that period. In the same year an apparatus for experiments in physics was procured, and a large lecture room set apart for its use in the *Collegium Illustre.*

In the theological faculty, both the more intelligent method of comprehending religious dogmas, which Pfaff and Weismann had begun to introduce by the admixture of some of the principles of Spener, and also the philosophical tendencies of Bilfinger and Canz, had for a time to make way again for a stiff ecclesiastical orthodoxy, whose chief upholders were J. F. Cotta and C. F. Sartorius. On the other hand, J. F. Reuss, the chancellor, laying not so much stress on the teachings of the church, and more upon the letter of the Bible and the authenticity of the New Testament, aided in preparing the way for the exegetical school of Storr. The visitatorial reports had heretofore frequently recommended the study of theology; but in the year 1780, the number of theological students had become too large, and they had to wait until they were thirty years old or more before they could obtain appointments, thus losing the youthful vigor of mind and feeling which their duties require. To remedy this evil, no more children of the common people were to be received to study theology, unless in case of extraordinary capacity.

In the juridical faculty the course was reorganized by the ordinance or "recess" of 1744 into one of three years, a new one being commenced each year, and the lecturing so apportioned that three professors were engaged in it during the winter, and three during the summer. Many disorders prevailed in this faculty; and one professor, Harpprecht, was suspended and heavily fined in 1749, for nonfulfillment of his duties. But neither admonitions nor punishments availed with this faculty; and, in 1750, we find the duke in great wrath at finding it not improved, the recess of 1744 disregarded, the students obliged to resort to foreign universities, the public lectures almost wholly neglected, the private ones so disorderly arranged and so wearisome in extent, that scarcely any student could go through them.

The medical faculty had always been the smallest in number both of teachers and pupils; and even in 1772, before the academy at Stuttgard could have influenced it, we find only one medical student; a state of things probably in part owing to the fact of there being no trace of any arrangement for clinical instruction. Among its instructors in this period, however, are found several of distinction in their departments, as J. G. Gmelin, the traveler and botanist; his brother, P. F. Gmelin; a third member of the same family, J. F. Gmelin; the

anatomist, G. F. Sigwart, and the distinguished practical physician, C. F. Jäger.

Transition to the Modern Period.

During the latter part of the last century, a period of new activity for university studies arose from the intellectual activity inspired in Germany, by the philosophy of Kant, by the political activity and speculations resulting from the French revolution, and by the wide extension of scientific researches consequent upon the growth of intercourse with European colonies.

Kant's philosophy was first introduced at Tübingen by J. F. Flatt, who was appointed extraordinary professor of philosophy in 1785, and who was zealous and successful in advocating it. The chair of history was filled in 1777 by C. F. Rösler, the first real historian belonging to the university, an eminent and useful writer and a successful teacher.

The philological condition of the university was not so good. The Wirtemberg divines had from old times the reputation of thoroughly trained philologists; but this was due rather to their instruction in the trivial schools than to that of the university. The philological chairs were filled only with theologians, who used the study of the ancient languages not for strictly philological purposes, but only for use in the explication of the Scriptures and in the usual Latin writing. No chair of classical literature was established until 1776, when D. C. Seybold was appointed professor. He was succeeded by K. P. Canz, a polished classical scholar, and known for his translations from Aristophanes, Æschylus and Sophocles. In oriental philology, Prof. C. F. Schnurrer had a European reputation, and was an efficient laborer and instructor.

In mathematics, the university enjoyed during this period the aid of several good instructors, and eminent in their science. Such were C. F. Pfleiderer, Wurm, Cammerer, Hauber, Pfaff, Renz, and J. G. F. Bohnenberger, a man of great physical and mental activity, and a good astronomer, surveyor and engineer.

But the most important of all the faculties during this period was the theological, in which the school of C. G. Storr introduced, in the latter part of the eighteenth century, a new phase of development. Storr's labors covered the period from 1775 to 1797, when he removed to Stuttgard. He was a man of extensive and profound learning, of earnest piety, a successful and industrious author, and as a teacher, interesting by reason of the interest which he himself felt in his work. Storr and his followers, departing from the theological systems of the seventeenth century, with their group of religious sym-

bols and their great dogmatic authorities, introduced, though in a conservative spirit and with the design of counteracting the various phases of neology then making their appearance, a theology based upon the doctrine of the plenary inspiration of the Scriptures, and the diligent interpretation of its words, but which labored under the disadvantage of a tendency to base its conclusions upon single books, or isolated texts of Scripture. Among Storr's most efficient disciples and followers, were J. F. Flatt, F. G. Süskind, C. G. Flatt, and E. G. Bengel.

In the juridical faculty, we find prominent toward the end of the last century, K. C. Hofacker, J. C. Majer, J. F. Malblanc, S. J. Kapff, J. D. Hoffmann, and C. G. Gmelin, able jurists and successful teachers, who maintained the reputation and prosperity of that faculty.

The medical faculty, hitherto always playing a subordinate part, became in this period quite celebrated, chiefly by means of two learned men who exercised a most powerful influence upon the progress of the new principles in medicine, and acquired a European reputation. These were Kielmeyer and Autenrieth. Prof. K. F. Clossius, a good physician and a zealous instructor, had already succeeded, after long and unwearied efforts, in organizing an imperfect hospital department, which, after some vicissitudes, became under the care of Autenrieth an important aid in the medical instruction of the university.

Evidence of the good condition of science at Tübingen is to be found in the scientific organ of the university, the "*Gazette of Literature*," (*Gelehrte Anzeiger*,) which appeared, though with important intermissions, from 1737 to 1808. It was at first called the "*Weekly Literary Novelties*," (*Wöchentliche gelehrte Neuigkeiten*,) and was both a literary journal and a vehicle of intelligence on the subject, containing brief notices of new books, and the lecture lists. At a later period, its contents were chiefly rather descriptions of and extracts from new books, than critiques on them; the other matter being principally on natural science, literary, history and law; theology being comparatively neglected. Still later, when revived by Schnurrer in 1783, it was a close imitation of the "*Göttingen Literary Gazette*," and was a journal of considerable value, especially for its reviews on subjects of speculative philosophy.

The theological *Stipendium* long adhered strictly to the ancient Lutheran orthodox dogmas and symbols, and unfriendly and severe investigations were repeatedly made into the motives and management of the prayer-meetings which began to be held by students inclining toward the beliefs of the Moravians. Besides the pietist sentiments which thus developed themselves, rationalism began to

show itself and to gather strength in the last ten years of the century. Duke Charles took much interest in the *Stipendium*, sometimes himself taking part in theological deputations, and often dispensing praise and reproof as he thought necessary to professors and students. The disciplinary arrangements on details of clothing, such as cowls, cloaks, &c., occasioned much trouble, and much ridicule. The students indulged excessively in beer and card-playing, evading the rules in many ways, and taking many opportunities to make sport of their instructors. Many of the wild ideas to which the French revolution gave rise, made their way into the minds of the students, amongst whom there were democrats and royalists who disputed vehemently with each other, even to the extent of street fights and duels. Some of the republican students even set on foot a correspondence with the French general, Custine, which occasioned an investigation, and the flight of one of the students most compromised. Some of the students used also to represent comedies, and a general spirit of disobedience and rebelliousness infected the whole institution, which at one time broke out into an organized riot or movement of the students, who marched in procession with music, insulted their instructors, and sung forbidden songs in the market-place. Various vain attempts were made to reëstablish the ancient strictness of discipline, but to no purpose; the kantian philosophy, and even rationalism and infidelity, and many more wild notions, had rooted themselves too firmly. In 1808, was discovered a sort of conspiracy or scheme, having an odd similarity to the "Pantisocracy" which so nearly made Coleridge, Wordsworth, and Douthey, settlers in Pennsylvania. Some theological students, with some from the city, had elaborated a plan of a natural model state on republican principles, which they proposed to organize on some island in the South Pacific. They made many preparations; hired laborers, were having girls educated, learned trades, had set up a common treasury, and statutes, to which each member swore to observe on penalty of being punished "according to the law of nature." A member who had joined in hopes of getting his debts paid, on being disappointed, revealed the plan to a clergyman and he to the government; an investigation followed, some of the students were imprisoned for a time, and the scheme was broken up.

Since the middle of the eighteenth century, the *Collegium Illustre* fell into entire disuse. There was still a principal (*Oberhofmeister*) and professors, but no princes, not even from Wirtemberg; and thenceforward the building was only used to lodge the duke or other high officials at their visits to Tübingen. The Burse also was partly

empty, and was rather a burden than a source of income to the philosophical faculty, which owned it, and which was therefore pleased at its change into a clinical department in 1802.

Manners and Morals.

Complaints continued to be made about nocturnal tumults, and many reproofs and commands were issued to the university and town authorities on this point, but seemingly without accelerating the amelioration which time gradually introduced. Thus, in 1778, there was a regular skirmish between the students and towns-people, which originated in a quarrel about a dog which some boys, as the students claimed, set on them in the market-place. This contest lasted for several hours, the beadle and watchmen in vain endeavoring to repress it; and many serious wounds were inflicted on both sides.

The feuds between the city students and the stipendiaries also continued. In 1780, a student fired a pistol at the window of the *Stipendium*, having been attacked with stones by the students there. At the funeral of Chancellor Cotta, the two opposing parties quarreled about precedence. The procession itself took place without disturbance; but the stipendiaries, who had been kept out of it, revenged themselves by an attack afterwards, during which numbers on both sides were severly cudgeled, and parties meeting at various places, pistols and swords were drawn, but there were ultimately no further results except abuse, threats, and some slight wounds. About ten stipendiaries were imprisoned for from six hours to twelve days, and one city student received a dismission (*consilium obeundi*). After this time the parties seem to have remained at peace with each other for a time, until the feud broke out again in 1792 and 3, when we find Hegel, afterwards the celebrated philosopher, one of the leaders for the *Stipendium*. He told one of the city students that they must keep out of the market-place in the evening, or run the risk of being shot down. The exciting occurrences of the period seem to have inspired the students with a warlike spirit, for we scarcely find at any other period so many quarrels, fights, and wounds. Dueling grew more and more frequent, but was still not as much practiced as at Heidelberg, Göttingen and Jena, during the same time; a fact due to the large proportion of students who were studying theology, and under a stricter supervision. The laws before enacted against duels remained on the statute book, but were very seldom applied in their full extent, and the defective police of the university rendered full investigation practically impossible. Fencing exercises were, moreover, regularly authorized, and were recommended as among the

appropriate bodily exercises, "by the practice of which students are distinguished from the populace." A fencing master was always employed from the establishment of the *Collegium Illustre;* and, in 1792 a second one was appointed; and there was also a riding master, and a master of ball-playing and billiards.

Visiting was mostly done by individuals, large assemblies not being common. There were, however, among the students some societies of a half literary and half social character. The Swiss physician, Am-Stein, a student at Tübingen in 1765–8, in a letter to his friend Aepli, describes one of these, at whose meetings, in a room set apart for the purpose, the members drank coffee, and had a Latin oration and disputations. They wore a gilded badge, and had a secret motto. Various professors were sometime present at their exercises and anniversaries. There were at the same time other students' societies, apparently merely for students' ceremonials, dueling, and drinking. A Free Mason's Lodge seems to have been erected among the students in 1765 by a doctor Richeville, but was attempted to be broken up by the authorities, notwithstanding the very good character of the members. Richeville was sent away from Tübingen, but the lodge remained; as the order at that time included many eminent and influential military and civil personages, and it was not thought best to offend them. An ordinance of 1770, however, declared all societies of the kind dissolved, forbid the wearing of their badges, and affixed severe punishments to the offence of being a member of one of them. We find, however, six years afterward, traces of students' societies, in a controversy which arose between two opposing parties, who elected two rival "seniors" of some such body.

New Ordinances under King Frederick, 1798—1811.

The main characteristic of this course of legislation was the discontinuance of existing privileges and exemptions. The first step in this direction was the ordinance of 1798, which revoked the former law prohibiting children of the common people from studying theology, and made admission into the theological department depend entirely upon the result of an examination.

Soon after the erection of Wirtemberg into a kingdom, was commenced a thorough revolutionizing of the constitution of the university. In 1806, it was enacted that in case of a vacancy in a professorship, the senate must in future ask leave to proceed to an appointment; the limit of penalties inflictable by the academical authorities was set at twenty *reichsthalers* and fourteen days' imprisonment; lawsuits between members of the university must go before the ordinary courts;

the booksellers, binders, printers, &c., to the university were deprived of their academical privileges, &c. Two days later the university was declared to be under the authority of the newly organized ministry of religion, and a curator, the well-known historian, L. T. Spittler, placed at his head, whose duty it was to be familiar with the condition of the university, to supply defects and wants as found out, or to bring them to the notice of the ministry; and in case of vacant professorships, to make nominations for filling them. The earlier law that all Wirtemberg students should spend some time at Tübingen was modified to enact that no one should offer himself for any official station requiring a learned education, unless he could show that he had studied at Tübingen at least two years; and in 1807, all persons were prohibited from resorting to any foreign university, and the professors were first forbidden to accept academical honors from any foreign university, and a few years later to accept any invitations from abroad.

New and strict disciplinary laws were also made; providing for monthly meetings of the senate to hear reports from the rector on the state of discipline; for increased amenability of the students to the ordinary legal authorities; for greater strictness in attending lectures; and for prevention of irregular indebtedness by the students.

Another law, encroaching deeply upon the prerogatives of the university, was that of 1810, subjecting the students to the military conscription. This, however, excited so much feeling that it was withdrawn, under color of a misunderstanding. In the previous year, Col. Von Lindenau had called on the students for volunteers, and of the number who enlisted, some became honorably distinguished. In 1811, the raising of the contingent for the Russian campaign producing a great demand for men fit for service, twenty students were forcibly enlisted as privates, most of whom perished during the expedition. The senate made a forcible representation on this measure, but received a rude reproof in consequence, with notice of an entire reform of the university constitution, which should completely discontinue all its privileges.

V. FROM THE END OF THE OLD CONSTITUTION OF THE UNIVERSITY TO THE PRESENT TIME—1811 TO 1848.

Reorganization of the University.

This took place under a decree of September 17, 1811, and although immediately a consequence of the king's initation at the reclamation of the senate against the forcible enlistment of the students, was a legitimate result of the change of the whole system of government, in whose centralized absolute sovereignty an independent corporation

was a disagreeable exception. Under the new law, the university, as the highest educational institution of the state, was placed under the ministry of religious affairs, and at its head was set a curator, who was to be president of the Board of Studies, and to reside in Tübingen. This office was conferred upon Baron von Wangenheim, successor of the deceased Privy-Councilor Spittler, a capable and useful officer. His official duties were to watch over the teachers and students, and to take measures or make propositions for the improvement of the university; and to exercise, in conjunction with other officers, its remaining civil and police jurisdiction. The rector was now merely an organ for communicating the orders of government to the senate and its chairman. The chancellor's office remained as before, with a few changes; and the property of the university was managed by the public department of finance.

Admission to the university was made dependent upon a strict examination; the course of study in law and in medicine was fixed at four years at least, and in theology it remained at five years. Various other changes were introduced into the course of study, and strict examinations established at the end of each course of lectures, and of the whole course of study. Premiums were offered in all the faculties, to be distributed before the full senate; and to conclude, all the privileges of the university, and all its regulations inconsistent with the new law, were declared discontinued. Some months afterward, a uniform was prescribed to the professors.

The university, knowing the impossibility of resistance, received the deprivation of their corporate independence with grief and resignation. In 1816, however, when a general desire for a restoration of the old constitutional rights, the university also laid before the Chambers a demand for many of the powers and privileges which it had lost. The government included a grant of most of these demands in the form of a constitution, which it submitted to the chambers, in 1817, with a view of gaining the support of the university to the scheme; but while the plan as a whole was rejected, the grants to the university were accepted, and became a law June 13, 1817.

This state of things was, however, quickly ended by the decree of the German Union (*Bund*) in 1719, which subjected the university to a system of guardianship so strict as to result in the fettering of all free movements, and effectually to restrain all historical and political studies. Vice Chancellor Autenrieth was made extraordinary royal commissioner, with the duty of observing carefully the spirit in which the professors taught, and of directing it properly. All the academical teachers were warned not to transgress the limits of their duty,

in lecturing to avoid all reference to cotemporary political tendencies, or if (as in history and statistics) some such reference was unavoidable, to use all possible prudence, on penalty of removal and banishment from the university.

The character of the professors prevented this action from being much felt, those whose duties were most likely to bring them in contact with the forbidden subjects, being either elderly and cautious men, taking little interest in the movements of the day, or such as were of reactionary tendencies. But the students felt it sensibly, as it maintained and strictly applied the existing laws against secret associations among them, a step which at once broke up the Burschenschaft, then in the highth of its prosperity.*

During the difficulties arising from the existence and suppression of the Burschenschaft and similar societies, a commissary was placed at the head of the university, with powers much like those of the extraordinary royal commissioner under the *Bund*. While this officer was employed, a proposition was put forward by the government to remove the university to Stuttgard, but after a sharp skirmish of pamphlets and anonymous articles, was dropped, being extremely unpopular.

The commissary was replaced in 1829, when a new change was made in the constitution of the university, by a head entitled a Chancellor, to be permanent principal of the institution in place of the rector, and to be appointed once in three years by the king. In this position was placed Autenrieth, who had already made himself disagreeable to his colleagues by his activity in the affair. There was also a vice-chancellor, and instead of the deans of faculty, those places were held by the senior professors. This new organization was eminently arbitrary, left the senate no duties except advisory and regulative ones, and gave most of the management of the university to the chancellor.

This constitution was received with very great disfavor, and was violently attacked both at home and abroad, and there was quite a flood of pamphlets and other publications for and against it. The result of the opposition however, was the appointment of a commission to prepare still another scheme of organization for the university, and to do away with the obnoxious features; and, in 1831, the united officers of royal commissary and head of the university were separated, the permanency of the latter office done away with, and the rec-

* For an account of the Landsmannschaften and Burschenschaft, see Raumer's "*German Universities*," edited by H. Barnard, pp. 53 and 80. Raumer makes many extracts from and references to Klüpfel.

torate restored, to be appointed by the king annually from three nominated by the senate. The royal commissaryship was vested in the chancellor, who was to be appointed by the king, and to act as a general supervisor of the discipline and studies of the university. There was also appointed a business agent or manager (*universitäts amtmann*), to have charge of investigations into offences, prohibited societies, duels, &c., actual performance of executive duties, the debts of the students, and law business; aided, also, by an actuary. The faculties were again to possess their deans, who was to be chosen for a year in a certain order. The introduction of this organization gave satisfaction to the university, and its establishment was confirmed by a law of 1832.

Later Improvements.—Additions to the Faculty and Apparatus.

During seven years, from 1835 to 1842, in consequence to a great extent of the zealous efforts of Robert Mohl, a member of the senate, the university made great and important advances, the total sums expended for the purpose within that period, amounting to more than 200,000 florins. A new university house was built, with a large hall for solemn occasions, greatly improved lecture rooms, fourteen in number, an examination room, senate chamber, and faculty and chancery rooms. A large new hospital was also erected, affording much needed space for a clinical practice. There were added new professorships of geognosy, administrative management, political history and statistics, zoölogy and surgery, and all filled with able instructors.

The number of regular professors was fixed in March, 1843, by ministerial ordinance as follows, in the

	Ordinary.	Extraordinary.
Protestant theological faculty	4	1
Catholic " "	4	1
Juridical "	6	1
Medical "	8	3
Philosophical "	9	3
Public-economical "	6	1

The present relative numbers are somewhat different. The scientific departments were, during this time, so far enlarged and improved as to answer all reasonable expectations, and to raise the university to a middle grade among those of Germany. Besides the strictly learned department, physical training was not neglected. A new riding-house was substituted for the old one, and the exercising-ground vacated at the dissolution of the Burschenschaft was made an official

academical department, and a teacher of gymnastics was soon afterwards appointed.

Literary Condition, 1811 *to* 1848.

The system of half-yearly and final examinations introduced in 1811, has given rise to great complaint, as being an interference with freedom of study, by making the examination in certain departments obligatory. But the system has been maintained.

The philosophical faculty was not during the first part of this period very prominent among the leaders of German thought in its departments. Prof. Schott was a genial and witty man in society, but no enthusiast for philosophy. Eschenmayer, appointed as a representative of Schelling's school, was too mystical, and too confined to a narrow scheme of classifications, to satisfy the demands of the age. And Sigwart, appointed 1816, though clear in stating forms of thought, was not a profound nor productive philosopher. In oriental philology, modern philology and French, the instruction given was somewhat inefficient and inattractive. Von Wangenheim caused the establishment of a professorship of the German language and literature, which was for some time filled with no great success, by S. H. Michaelis, and was then left vacant. The chair of history, at first unsatisfactorily filled by the old professor, Rösler, was afterwards more efficiently occupied by Dresch, and by K. F. Haug.

From about 1830 to 1840, the situation of this faculty was much changed by the succession of new teachers.

In 1833, Dr. Moritz Rapp lectured on the scientific side of modern philology, commenting on Shakspeare, Molière and Cervantes, and explaining the physiology of language, with much force and effect. He also introduced a series of exercises in the production of parts of celebrated dramatic works, which excited much interest.

The Hegelian philosophy crept gradually into the university between 1828 and 1832, being earnestly investigated by some of the students, who kept it to themselves as a sort of aristocratic or esoteric philosophy, and some of them losing their interest in it afterwards, when, in spite of the bitter opposition of the professors, it was publicly expounded with great popularity by D. F. Strauss, then a repetent, afterwards author of the celebrated "*Life of Jesus.*" Strauss was followed by Fischer, a "new Schellingian," and he by Vischer, who inclined to an æsthetic Hegelianism.

A chair of geology having been established, Prof. F. A. Duenstedt was appointed to it in 1837; and he has been an acceptable and efficient instructor. This department had previously been in charge

of a member of the medical faculty; and some other departments of natural sciences still remained so.

At the removal of Profs. Sigwart and Fischer from the university in 1841, a new movement was made to obtain a representative of the modern speculative philosophy, but was opposed by those who feared that the current tendencies of that philosophy were rather against than for evangelical Christianity. The former, however, substantially carried their measure.

From about 1838, the study of the oriental languages was quite flourishing at Tübingen, under the instructions of Julius Mohl, L. Kapff, Dr. Wolff, and G. H. A. Ewald, the last of whom, however, though learned and efficient in his duties, made himself very disagreeable as an associate, and after no very long period returned to Göttingen, where he had previously been.

To the department of the philosophical faculty belonged the seminary for teachers of real schools, and the philological seminary; both organized in the spring of 1838 under the direction of the ministry. The former was under charge of Prof. Haug, and was intended to afford a higher scientific training to those candidates for employment as teachers in real schools, as might desire it. Its instruction was given free by professors in the philosophical faculty, who received from the government a compensation for lectures in mathematics, physics, chemistry, geography, history, and modern languages. The members were also permitted to practice in the real schools, and received during two years, an allowance from the state of 150 florins a year. This institution was discontinued in 1846, the instruction not being as thorough as desired, and the instructors not taking sufficient interest in their duties, which were indeed mere additions to their regular employment. Since that time the same public allowance has been made to some candidates for places in real schools, who desire to study at the university, and present satisfactory testimonials.

The philological seminary is in charge of the two professors of classical literature, (at present Profs. Walz and Schwegler,) and the rector of the Lyceum. Its members are from the theological and other students; and the course of study consists in the interpretation of the classics, composition, and exercises in practical teaching in the Lyceum. It is intended to train philological teachers.

Evangelical-theological Faculty, 1812—1848.

In this faculty, Dr. Bengel was for a long time the most influential member. During his period, which may be stated as from 1812 to 1826, appeared the "*Archives of Theology and New Literature*,"

edited by him from 1816 to his death, and intended as a vehicle both for criticisms and for careful original discussions in its department.

A new period in the progress of this department is marked by the introduction of Schleiermacher's system of theology about 1829. This gave rise to much controversy, and to an increased interest in that department of study. In 1828, Prof. Steudel established the "*Tübingen Journal of Theology*," intended to keep pace with the progress of theological investigation, and to serve as a guide to opinion on the subject. Since 1830, the aid of various learned men, especially from among the colleagues of the editor in the theological faculty, has given this journal a fixed position in theological literature. Mention should here be made of Strauss' "*Life of Jesus*," a work whose reputation and influence are well known, and which proceeded from Tübingen while its author was an instructor within the evangelical-theological seminary there. The first of all the controversies into which the author found himself plunged, was one with Dr. Steudel, which attracted much attention. The death of Steudel, in 1837, left the theological faculty in an unsettled condition with regard to teachers, which is not yet (1848) entirely adjusted.

Evangelical-theological Seminary.

The influence of political movements upon this institution has already been alluded to. In 1811, a renewed attempt was made to maintain the strictness of the ancient laws as to drinking, &c., while the antique costume hitherto prescribed, was permitted to be exchanged for ordinary pantaloons, boots, gray over-coat, and round hat. This change resulted from Curator Von Wangenheim's dislike to see the stipendiaries in their quaint clerical costume in the beer houses. The political tendencies of the seminary are illustrated by the excitement at the report that the French Army was totally destroyed at Lützen, when the whole institution broke out into shouts of exultation, and for a long time nothing was to be heard except furious war-songs, *vivats* for Alexander and Wittgenstein, and *pereats* for Napoleon and the king. Some of the students enlisted for the campaign of 1814 into France, and for that of the next year.

There grew up about this time among the stipendiaries a tendency to single combat and to the usual dissipations of the students, quite inconsistent with the regular discipline, and very troublesome to the instructors. An investigation into alleged disorders of this nature, on complaint of the repetents, led to no result except the breaking up of some harmless associations among the foundationers. Much more

interruption of their studies resulted from the passage and delay of some of the Russian, Austrian and Prussian army-corps.

In 1816, more complaints were made of the association of some of the stipendiaries with the "Corps," and their indulgence in a *Landsmannschaft* of their own, and the usual drinking and dueling. These proceedings were investigated and stopped; but the foundationers took part in the quarrel between the *Landsmannschaften* and the Burschenschaft, and thus had a disagreement between themselves. There was at this time a strong radical tendency amongst a large part of the stipendiaries, and indeed of the repetents also.

In 1826 a new set of statutes were enacted, substantially the same as at present in force. Their chief purpose was a stricter provision for the fixing and oversight of the whole course of study, which must be approved by the instructors for each student, and then followed by him. The plan has had one bad result, namely, to prevent the pursuit of any study besides theology, philosophy excepted. There was also established a system of written themes, sermons, &c., all to be prepared under strict inspection by the instructors; all the stipendiaries were required to attend church on all Sundays and festivals, except in case of sickness, &c.; going to taverns is forbidden, except occasionally in vacation; practicing the student-customs and all fencing are forbidden on pain of imprisonment or expulsion; smoking is prohibited except in the study-rooms; a uniform black costume is prescribed, except that a proper over-coat of not too violent a color may be worn, and gray pantaloons on working-days. Neckcloths must be worn, and may be either black or white.

During the present period, the growing demand for freedom produce frequent manifestations of dissatisfaction with the strict discipline of the foundation, and more than one plan was considered for discontinuing it, or remodeling it into a merely literary institution; these schemes being upheld by the evangelical clergy, who were displeased at the progress in it of rationalist and even theistical views.

The expense of the foundation has been, for the last three years (1846–8), at an average, 36,000 florins, with an average of 120 students. That of the current year (1849) is computed at 41,000 florins. Each stipendiary receives free lodging, dinner and supper, sixty florins a year in lieu of wine, fuel, attendance, medical services, and instruction, all gratis, at an expense to the state of about 230 florins per head. The salaries of teachers, &c., amount to 3,000 florins, of which the *Ephorus* or principal receives, besides free lodging, 600 florins; each of the nine repetents, board, lodging, 180 florins, and 100 florins wine money; and 3,700 florins more is expended for household ser-

vices, performed by a steward, two under-overseers, four waiters, one repetent's servant, and nine students' servants.

Catholic Theological Faculty—the Wilhelmsstift.

After the large addition to the Catholic part of Wirtemberg, which resulted from the Napoleonic wars, the need of an institution for the training of Catholic clergymen began to be felt. In consequence of this, king Frederic I. attempted to supply the want by a so called Catholic Theological University, which he established at Ellwangen in 1812. This consisted only of a theological faculty with five instructors, and depended for the necessary introductory philosophical and philological instruction upon the gymnasium there, an institution not competent to the task. As the addition of these faculties would have demanded too large an outlay, it was decided to transfer the new institution to Tübingen, which was done during the fall and winter of 1817–18. The new faculty was installed as next in rank to the evangelical-theological faculty, with similar rights to the others. It consisted of five chairs; for ecclesiastical law and history, exegesis of the New Testament, oriental languages and the Old Testament, dogmatics, and ethics and pastoral theology.

But as there was no great concourse of students for the Catholic priesthood, and as many of those who would have pursued the requisite studies were prevented by poverty, the government resolved to establish a Catholic institution similar to the evangelical foundation, which was opened accordingly in the autumn of 1817, in the building of the old *Collegium Illustre.*

The new institution, usually called the "Wilhelmsstift," was under the authority of the Catholic ecclesiastical council, and admitted every year, after a competitive examination, forty pupils. The general character of the institution is very similar to that of the theological foundation, as regards interior arrangements, management, allowances, &c.; but the disciplinary regulations were much stricter, and less recreation and absence permitted.

Juridical Faculty, 1811—1848

A succession of instructors, all competent and some distinguished, have lectured in this faculty during this period. No change has been introduced in the course, except that lectures on the constitution and laws of the German empire, discontinued since the end of that empire, were reëstablished by order of the ministry in 1815, on the ground that many legal decisions yet valid and important, were based on that law, and were unintelligible without it.

Faculty of Political Economy.

This faculty, a supplement to that of law, was established in 1817, and may be said to have had predecessors in the *Collegium Illustre* and the "economical faculty" of the Karls-Akademie at Stuttgard. It was established in consequence of the recommendation of Baron von Wangenheim, as a means of furnishing public officers better trained in the various branches of administration. The departments to be taught were fixed as follows: theory of political economy, especially state polity, national economy, and finance; public administration, especially practical governmental management, (*regiminal-praxis,*) exchequer and finance management; agricultural economy; forestry; technology, trades, mining; and civil architecture. Lectures were also prescribed in the juridical faculty, on public law generally, state law, philosophy of enacted law, Wirtemberg common law, (*privatrecht*), as far as intelligible without a knowledge of Roman law, and financial law. It was intended to afford means of practical exercises in agriculture and forestry, but the plan did not succeed. In order to offer some inducements to students, it was decreed that in future supplies of public offices, preference should be given, other things being equal, to those who had studied in this faculty, and passed the faculty examination; and from four to six stipends were offered, to be given during the next ten years, of about 150 florins each, besides an annual distribution of prize medals, similar to that in the other faculties.

The attendance was at first large, in the second year being over a hundred; but soon decreased again, the higher authorities, themselves trained as clerks, neglecting to comply with the provision for preferring students, when vacancies occurred in the public service; and the instruction given by the faculty being itself defective. The number of students began to increase again however after the appointment of Robert Mohl as professor of public law. About 1836 the studies in this faculty were arranged into two classes, one for those intending to pursue financial employments, and one for those preparing for situations in the ministry of the interior.

This faculty gives the university of Tübingen an advantage over most of the German universities. Most of them have no similar one, and none one so complete. Its diploma of Doctor of Political Economy is sought after from every part of Germany; its organization has served as a model for similar ones even in France; Mohl's writings on the training of administrative public officers have mostly been translated into French, and in Sweden the examinations for such

offices have been organized on the principles fixed by the Tübingen faculty.

Medical Faculty, 1811—1848.

During this period, this faculty flourished and extended its sphere of operations quite importantly; although no improvements of great consequence took place until 1835, the results of Prof. A. F. Schill's vigorous advocacy of the late new discoveries in medicine, and of the necessity for greater efforts to accommodate students. More beds were afforded in the hospital, and better clinical instruction, both from hospital and out patients, was enjoyed.

In 1841, Dr. C. A. Wunderlich, head of the clinical department, and Dr. Roser, established a medical periodical, the "*Archives of Physiological Medicine*," since edited by Dr. Griesinger, and which has done much service in its department.

The annual public appropriation for the clinical departments at Tübingen were, in 1847–8, 17,000 florins. That for the next year is computed at 23,000 florins. Besides this, there is an annual income of from 6,500 to 7,500 florins, from payments for board, &c., from an invested capital, and extraordinary appropriations.

Eschenmayer first introduced the department of insanity, and Dr. Leube aftewards lectured on it. The latter also proposed and planned an asylum for the insane, but it has not yet been erected. Some cases are received in the new hospital, and a few cells are fitted up for cases of mania.

The senate discussed a plan for a veterinary hospital as early as 1812, and one was ordered by the ministry, and money given for it, in 1817. J. D. Hofacker was also appointed veterinary professor in 1814, and lectured ably, but to no great effect, for want of practical illustrations. Hofacker died in 1829, and no successor was appointed. At present, occasional lectures on veterinary medicine are given by the veterinary surgeon of the district.

Three new ordinary professorships were established; and instead of the mere rudiment of a cabinet of natural productions, the small botanic garden with a green-house for exotics and no herbarium, a kitchen incapable of being heated for a laboratory, a little chapel for an anatomical theater, and a couple of rooms for patients, where one patient at a time could be seen exceptionally, there is now a large zoölogical collection, a cabinet of comparative anatomy of remarkable beauty and extent, a large building for botanical collections and investigations, one of the finest botanic gardens in Germany, two large chemical laboratories, a handsome building for human anatomy, with collections, already important, a well built, roomy and well furnished

hospital, and a large building used as a lying-in hospital. And besides these material advantages, the medical faculty at Tübingen possesses another, perhaps hardly existing to an equal degree in any German university, that the professors now in charge of the most important institutions for practical instruction are young men.

VI. SCIENTIFIC COLLECTIONS AND INSTITUTIONS.

Libraries.

University Library.—The origin of this library is unknown; our first notice of it is, that it was burnt in 1534 with the Wisdom House, (*Sapienzhaus.*) It was slowly replaced, from poverty; its main additions being from the books of the convents broken up at the Reformation, which were divided between Tübingen and Stuttgard. There were also valuable smaller libraries in the *Contubernium* and in the *Stipendium Martinianum*, which, however, have entirely disappeared. An important addition was the library of Prof. Ludwig Gremp, already mentioned, of some 2,600 well selected useful volumes, all handsomely bound in hogskin, and especially rich in jurisprudence and theology.

The first regular arrangement of the library was made about the end of the sixteenth century by the librarian, Prof. George Burkhard, who completed an arrangement and catalogue in 1792. During the Thirty Years' War, the whole collection fell into great confusion, from which it was not rescued until about 1680. It did not begin to increase much until after 1750, a little after which time the librarian, Dr. Scheinemann, had the library open for use by the students, under careful oversight, twice or thrice a week. In 1774 arrangements were made which permitted a somewhat fuller use of it, but it was of very little service in the winter, being still in the lower dark rooms of the university house, where, if a book was wanted for use, it was necessary to go in with the beadle and a lantern, and carry the requisite writing materials. The students were now permitted to carry away books for from eight to fourteen days, on security of a professor.

The addition of the library of the philosophical faculty, and of the *Martinianum*, and of the valuable works presented at the jubilee of 1777, directed more attention to the library; plans were agitated for better rooms for it, and various private and other collections purchased and added to it, and in 1819 it was at length removed to a more convenient locality in the north wing of the Castle, which affords a very handsome library room, as now fitted up.

The want of a catalogue and of sufficient force for the service now caused great inconvenience, and many complaints and petitions for

improvement. Prof. Herbst, appointed chief librarian in 1831, applied himself with great zeal and activity to introduce needed improvements; and an epoch of still greater importance for the prosperity of the library was constituted by the appointment of Robert Mohl as chief librarian in 1836. Since that time the management has been newly regulated, reading hours fixed at from 9 to 12 and 1 to 4, sufficient catalogues begun and nearly completed, more officers and servants employed, more room obtained for the increasing number of books, and largely increased appropriations for purchase secured, the whole amount being from 12,000 to 15,000 florins. The whole number of bound volumes now reaches about 200,000, besides about 50,000 dissertations and pamphlets, and some 2,000 manuscripts. The library thus ranks among the large European libraries, and is the largest of any German university, except that of Göttingen; although the unsystematic mode in which much of it was collected, and the character of its sources, renders it not so valuable for use as some smaller ones. It is in charge of a library commission, consisting of the chief librarian and six other members, ordinary professors. The administrative force is a chief librarian, (Prof. A. Keller,) two librarians, (Profs. J. F. J. Tafel and K. Klüpfel,) an assistant, an amanensis, an under-overseer, and a servant.

Other Libraries.

Library of the Evangelical Seminary.—This was established as early as 1557, when the duke gave three casks of books, mostly theological, from the convent libraries. The number of volumes is now about 30,000, besides some MSS.

The library of the Catholic *Wilhelmsstift* contains about 15,000 volumes, two-thirds of them being the theological portion of the king's private library, deposited there, and the remainder from the library formed at Ellwangen, and from duplicates of the convent libraries.

The *Museum Library* contains some 1,400 well selected works on belles-lettres, history, geography, and politics, and about fifty scientific and literary journals, and twenty newspapers, which are kept at hand in the reading-room.

Other Scientific Collections, &c.

The *Cabinet of Coins and Antiques* is in the northeast tower of the Castle, in charge of Prof. Walz, and contains 2,022 pieces in all, including many valuable coins, bronzes, statues, casts and curiosities.

Observatory.—This was established in 1752, under Duke Charles, in the northeast tower of the Castle, and supplied with an iron quadrant made at Paris, two pendulum clocks, and two large telescopes

between twenty and thirty feet long. In 1785 it was rebuilt; and in 1800, rooms were set apart for observations, and for a lodging for the astronomical professor. Under Bohnenberger, the collection of instruments was enlarged, as much as the small means accessible permitted. In 1845 it was much increased by the purchase of a large refractor from Munich, for which the observatory was rebuilt again, with a movable roof. This refractor was of six inches diameter, and eight feet focal distance. There is now a good collection of other modern instruments by the best makers; and though the establishment is by no means a first class observatory, it fully answers all the requirements of the university.

Philosophical Apparatus.—This was commenced under Stöffler. Under Duke Charles the collection was much enlarged, and, in 1804, a large hall and several chambers in the Castle were appropriated to it. With a few exceptions, the apparatus is now of the newest kinds, competent for all classes of physical experiment, and will compare well with that of any other institution of its class in Germany.

Collection in Natural History.—This was only commenced in 1802, when its foundation was laid by the gifts of several professors, an endowment from Baron von Palm, and an appropriation from the university funds. The mineralogical cabinet has much increased since a professorship of mineralogy and geognosy was established in 1837, and, especially, since it has been in charge of Prof. Duenstedt. It may now challenge a comparison with any collection in Germany, and surpass most of them in completeness and clearness of arrangement, and scientific classification. It contains about 100,000 specimens. The zoölogical and zoötomical collection, in charge of Prof. Von Rapp, is constantly increasing in value.

Botanic Garden.—During the years 1805–9, a new botanic garden was laid out under the care of Prof. Kielmeyer, but in low ground near the Ammer, and liable to overflows and frosts, and too damp for many plants. It had a forcing-house, and a gardener's house; but no lecture room, nor any accommodations for scientific labors, nor for preserving collections. During the last twelve years, however, a new garden has been laid out on higher ground, and these deficiencies quite well supplied.

Anatomy.—A new anatomical theater was erected in 1832–5, with a dissecting room with accommodations for more than 200 persons, a lecture room, rooms for dissections by students and for keeping preparations, subjects, and animals, and an anatomical museum. The clinical department and lying-in hospital have already been mentioned.

Collection of Models.—This collection for instruction in technology, is now accommodated in a separate building fitted up for the purpose.

Literary Representations of the University.

Since the discontinuance of the "*Tübingen Advertiser*," (*Anzeigen,*) in 1808, there has been no general literary organ of the university, such as exists at Göttingen, Heidelberg, Halle, Jena and Leipzig. A plan for establishing such a one, in connection with a Wirtemberg association of learned men, was started in 1826 on occasion of the birth of the crown prince, but neither ever went into operation. Single faculties have, however, issued periodicals, as, for instance, both the theological and the juridical. The Catholic one still exists; the Protestant one lasted, with brief intervals, until 1840; the political-economical one until 1844. Some individual professors also published periodicals; as, Reyscher for German law, Zeller for speculative theology, Roser and Wunderlich for medicine, and Fichte for philosophy. In 1843, the younger professors of almost all the faculties seemed on the point of uniting in a common periodical; but the plan went into operation only partially, in the form of the present year-books, edited by Schwegler.

Since 1829 the use of Latin has been discontinued in official academical writings, programmes, addresses, dissertations and disputations. No festival programmes are any longer published, except on the king's birthday, and those customary at the announcement of the promotions to the doctorate of philosophy.

Instruction in Fine Arts, &c.

Instruction is given in riding by riding-master Baron von Falkenstein; in music, by music-director Silcher, well-known as a composer and leader; in drawing and painting, by the painter Leibnitz; and in fencing, dancing, and gymnastics, by masters in those arts.

Propositions for Reform.

Prof. Fallati of Jena, originated a proposal of an assembly of university instructors in Jena in 1848, and a little afterwards, the university of Jena sent out invitations to the other German universities to appoint each four representatives to a reformatory convention to meet at Jena, as a convenient and central point. Four were chosen at Tübingen; two from the ordinary professors, one from the extraordinary professors, and one from the private instructors (*Privatdocenten.*) On behalf of each of these three bodies, proposals for reform were drawn up, the first of them recommending the substitution of an assembly of all the instructors for the present senate of ordinary

professors; and the last, submitting a new constitution in detail, adhering generally to the corporate rights of the university, but recommending the cessation of its exempt jurisdiction, a similar substitute for the senate to that just mentioned, and an executive committee for current administrative business.

Manners and Morals.

Not much can conveniently be said on this subject during the present period, aside from what has already been mentioned in discussing the Burshenschaft.

The government prohibition to enter beer houses (*Kneipen*) in the forenoon, was somewhat mollified in 1837, but though often remonstrated against by both students and professors, is still in force. This is to some extent a hardship, as in Tübingen the students depend upon these public houses for social intercourse, much more than at most of the other German universities, as but few family circles are open to the students, and then only to relatives, or those in some especial relation to a professor. Large social assemblies are quite rare. There is usually in winter a sort of assembly (*Casinogesellschaft*) at the museum, at which some families and some students are usually present. There are also occasional balls.

Among the elder members of the university, there are various social circles, one of which in particular has existed for some ten years, and consists mostly of professors, at each of whose meetings conversation is varied by a discourse from some one of the members on some literary subject of general interest. There have of late been various efforts for the literary and æsthetic improvement of ladies. Thus Prof. Vischer delivered, during several winters, numerously attended lectures on literary history; Dr. Bröcker lectured to ladies on general history; Dr. Leibnitz on the history of art, &c.

In 1858, there were 72 professors, of whom 46 were ordinary professors, 9 extraordinary, 2 honorary, 16 privat docentes; 704 students, viz., 118 in catholic theology, and 146 in protestant; 193 in jurisprudence; 111 in medicine; and 136 in philosophy.

V. CHARACTERISTICS OF THE AMERICAN COLLEGE.

[From a Discourse by Cornelius Conway Felton, LL.D., before the Alumni of Harvard College, on his Installation as President, on the 26th of July, 1860.]

BRETHREN, we stand here to-day as the representatives of the oldest university on the American continent. Our Puritan ancestors brought with them from Oxford and Cambridge the English scholarship of their age. They were among the best educated men of their times. They were among the noblest men of any times. If their memories ever cease to be honored here—if among the changes that advancing years are always making in the opinions and works of men, the names of the Puritan fathers shall ever be scorned or forgotten here, the smile of heaven shall no longer rest upon us, and these fair structures, now crowded with studious youth and visited by the light of unexampled prosperity, shall crumble to the earth, blighted with the curse of God. John Harvard, whose honored name the institution bears, was a Cambridge man, and the name of the place, Newtown, was early changed to Cambridge—*Cantabrigia Nov. Anglorum*—Cambridge of the New Englishmen. Harvard College became the corporate designation, and the university at Cambridge its descriptive synonym. The earliest seal bearing the motto "VERITAS," appears in the records of 1643, the one now commonly used with the motto *Christo et Ecclesiæ* having been introduced at a later and uncertain date. The earliest degrees were conferred by the president, with the sanction of the *honorandi viri* and *reverendi presbyteri*, upon the *juvenes quos scio, tam doctrina quam moribus idoneos esse pro more academiarum in Anglia*, according to the usages of the universities in England. Indeed, the early society of New England generally was organized upon the social principles of Old England.

The precedence yielded to rank; the privileges, exemptions and honors, conceded to esquires and knights—there were few of higher rank among the Puritan aristocracy—would astonish and offend this easy mannered age. These feelings were shared by the scholars and governors of the infant college. In the class-room and chapel the pupils sat according to the social position of their fathers. It is ordered by the earlier laws, that *scholarium quisque donec primo gradu ornetur, ni sit commensalis aut nobilis alicujus filius, aut militis primogenitus, suo tantum cognomine vocatur.* "Every scholar, until he receives his first degree, shall be called only by his surname, unless he be a fellow commoner or the eldest son of a knight or nobleman." Some of the ancient laws are more applicable to the present time than the one I have just quoted. For example, "they

(the scholars) shall honor as their parents, magistrates, elders, tutors, and aged persons, by being silent in their presence, except they be called on to answer, not gainsaying, showing all those laudable expressions of honor and reverence in their presence that are in use, as bowing before them, standing uncovered, or the like."

"They shall be slow to speak, and eschew not only oaths, lies and uncertain rumors, but likewise all idle, bitter scoffing, frothy, wanton words and offensive gestures."

The following brief rule has a much wider application than to the scholars of a college:—

"None shall pragmatically intrude or intermeddle in other men's affairs;" and there is a Latin law which was by no means a dead letter, though in a dead language: "*Si quis scholarium, ullam Dei et hujus collegii legem sive animo perverso, seu ex supina negligentia, violarit, postquam fuerit bis admonitus, si non adultus, virgis coerceatur.* "If any of the scholars, from a perverse mind or supine negligence, shall violate any law of God and of this college, after he has been twice reproved, if not adult, he shall be scourged with rods."

I forbear to make any application—scholars now are all adults.

I must quote one more as a law greatly needed every where:—

"No scholar shall taste tobacco, unless permitted by the president, with the consent of their parents or guardians, or on good reason first given by a physician, and then in a sober and private manner." Begging pardon of my numerous smoking friends—and no man has more or better—I can only say that if the scholars taking tobacco depended upon the permission of the president now, cigars, pipes, snuff and quids, would quickly disappear from the college premises. But alas! the smoke of tobacco, like the smoke of sacrifice offered to idols among the ancient heathen, has led the generation of men astray, and the breath of human nostrils goes up to heaven—if indeed it goes there all—ἑλισσομένη περὶ καπνῷ.

I must not dwell on these characteristics of the past. The history of the university has been admirably written by my venerable predecessor, President Quincy. I will only remark in general that every record of the proceedings of our ancestors in relation to the institution shows that they had large and liberal purposes. They aimed to educate a learned clergy, but not that alone. The general education of the people was embraced in the scope of their enlightened plans, and they included in their idea of a scheme of general education the general principles of the highest possible education. The university was upreared side by side with the schoolhouse as an indispensable part of the instrumentalities of civilization. They built up a state which they resolved should be a Christian state, but their conception of a Christian state included the widest range of human learning. They were no fanatics of a single, narrow idea. They were men of piety, but not an ignorant piety. They thought the chief end of man was to glorify God, but they would glorify him by unfolding to the highest possible extent the faculties of the human soul which he created

in his own image. We smile as we read some of the quaint and ceremonious requirements of the earliest college laws. Manners change in external manifestations from age to age; but the basis of good manners, respect for the rights of others, modest estimate of self, honorable submission to established laws, deference to venerable age, illustrious character and official station, reverence for sacred things—these are the foundation of the manners of gentlemen every where and in all times. Our ancestors had this in view in their rules of order, however quaintly expressed, and they were wise men in requiring of the academic youth good manners as well as good morals—the minor morals as well as the greater morals.

I am glad to say, though many of the ancient ceremonial observances have passed away in the course of time, the spirit of our rules remains the same; the object, namely, to train up Christians and gentlemen, remains the same. I will venture to affirm, in no boastful spirit, but with devout thankfulness, that the object has been in good measure accomplished in these academic retreats. No one can be more conscious than I am, that young men, during the period of their university life, are often restless under college rules, and take it ill that they are called to account for the violation of what they are sometimes pleased to consider petty restrictions. I have entire confidence in the honor of the great mass of students. I believe no body of young men are in the main more truthful and magnanimous. I have nowhere met persons more gentlemanlike, better bred, better behaved, or with better purposes, on the whole. Yet I must say that those speculative gentlemen who maintain that the rules of order which students are required to observe within the college premises are superfluous, know but little of human nature or student nature. Bring four or five hundred persons, young, middle aged or old, learned or ignorant, pious or impious, or even angels, together without laws, and a superior power to enforce them, without rules of order and the authority to require their observance, and in a month these quiet and studious scenes would become a pandemonium. A lady may now pass unattended, at any hour, through the college grounds, secure from seeing or hearing any thing to alarm or offend her. Mothers never think of warning their daughters not to cross the college precincts, day or night, for they know the spirit of the place, and that maiden delicacy has never been wounded by word or act, and that the safety is absolute. Take off the restraints—which some young men think so grievous, and justify themselves in striving to resist—for a month only, and the Faculty would receive a petition, unanimously signed, to restore them all, if not to make them more rigorous than they were before. Law is the only condition of society—much more, civilized society. A state where every man does what is right in his own eyes, where there is no restraining power to check his whims and passions, is not a state in which progress can be made. Homer understood that well when he described the lawless one-eyed Cyclops and his shaggy brethren of the mountains and caves—fit companions of the beasts that perish. The laws necessary to institutions of learning

vary, perhaps, in details, according to circumstances. I think our University owes no inconsiderable part of the great influence it has exercised upon society, to the fact that while it has remodeled the special forms of its laws and orders, when the spirit of the age required, it has always enforced not only the moral law in its highest sense, but the minor morals, which are the manners of gentlemen.

There is a saying of ancient wisdom, that he best knows how to rule who has learned how to obey. Submission to the law is the best discipline for the august task of making laws. To the American, more than to any other, the early lessons of obedience are needful. Our only security is in the law, and in ready and intelligent obedience to its sovereignty. It was a noble sentence of Plato that the magistrate is not the servant of the people, but the servant of the LAW. An opposite view has taken too strong a hold upon our heady Demos. All men and all things are supposed to be subjected to the shifting gales of the popular will. Law is the expression of Eternal Right, beyond the reach of the caprice of the moment. It is, in its highest form, the voice of God. "The Laws from Jove"—θέμιστες παρὰ Διός—is a phrase of Homer's, who knew all the profoundest truths of human experience. Education includes this obedience to Law as one of its vital elements. To leave the young without this influence is more dangerous here than in other countries; because, in no other country has the citizen, on attaining his majority, so direct an agency in the affairs of government. The three years of academical freedom (the academische Freiheit) of the German University are not so dangerous there as they would be here, because the moment the Bursch takes his degree, he falls for life under a rigorous system against which it would be vain for him to struggle; his daily bread depends upon his daily obedience. And yet, even there, a growing sense of its evils is beginning to manifest itself. When I explained to some of the learned men on the Continent, the college system generally prevalent in America, by which students at the University are held to the daily performance of their duties—duties which they can not go far in neglecting without being called to account—and that too during the four years of college study, until the young men reach the average age of twenty-one—they agreed that our system was much better than theirs, and one of them, raising his hands, exclaimed, "Would to God we had it here!" Our danger is routine; their's is license. On each side the special danger is vividly felt, and the special advantage of the other clearly perceived. We sometimes give too strong a preference to the German University system; they are sensitive to its peculiar evils, and perhaps exaggerate the advantages of ours. A system which should unite the excellence of both, would come as near perfection as a human institution can attain.

And this leads me to a topic on which I feel it my duty to say a word. I am aware that some have fancied that the law of the state can not cross the boundary lines of the college premises, whatever deeds may be perpetrated there. I shall speak my mind frankly, because I think the time has come when the subject should, once for all, and in the most public man-

ner, be set in its true light. In a well ordered society, when crime has been committed, the public law steps in to vindicate its supremacy, and citizens of every grade and calling stand before its dread tribunal on the footing of exact equality. No fear or favor, or personal solicitations, can set aside its stern decree, or abate the penalties it inflicts on the doers of evil deeds. I know of no power in the college or the state, which can make these grounds an asylum for crime. The faculty, corporation, and overseers, combined, could not arrest for a moment the footsteps of justice pursuing the offender into the college domains. There is no right of asylum for wrong and violence near the altars of learning and religion. It is to the honor of our students that the cases of offence are so few and far apart that the very memory of one dies out before another occurs; and when one does occur, both the act and its legal consequences come upon them with surprise. The course of the law strikes them as a novelty, which they sometimes vehemently resent. And then we hear from many quarters that we are a paternal government, and that sounding phrase is considered argument enough to condemn the most indispensable course of well considered action. A paternal government—the Austrian and Russian despotisms are paternal governments. That can not be what they mean. It is the family government, perhaps, to which they refer. What family government ever shielded its members from the penalties of violated law? What father ever had the power or the right to protect his son from the officers of justice, even if it was the paternal mansion itself which the reckless youth had burned to the ground? Family government—I suppose the thing somewhere exists. I know the art in former times was understood; but there is a figure of speech which the grammarians denominate catachresis, and which young men at college sometimes wittily employ when they call their fathers "the Governors" —*ut lucus a non lucendo.* There is a story told of a discussion among a knot of students at Cambridge, not here, but in England, on the interesting subject of their governors—when one, more filial than the rest, tried to check the petulance of his comrades by saying: "After all, let us remember that they are our fellow creatures." That kind of paternal government, the government of those "Governors," we do not think will answer here. I take it upon me to say that these grounds, consecrated to learning and piety; these buildings, that so many generations have inhabited; this property, the charities of our ancestors and our contemporaries, dedicated to science, letters, education, and to the worship of Almighty God—all these enjoy the protection of the law. No man shall lay the hand of violence on these sacred trusts. High privileges secured by the gifts of generous and pious men, are no excuse for midnight outrage and barbarous violence. He who forgets the dignity of his calling as a student, his obligations as a gentleman, his honor as a man, and sets the laws of the land at defiance, runs the same hazard as any other man, either of detection in the act, or of conviction and all its consequences afterward. Crime is no more a joke within the college walls than it is without, and the false idea that it is, is a dishonest and corrupt-

ing sophistry, not to be tolerated for a moment by any conscientious administration of college government.

From the small beginning of the college, when, according to the witty verse of the president (Dr. Holmes) of the day,

> "Lord, how the Tutors knocked about
> The Freshman Class of one,"

it has grown to a great university, wholly in accordance with the liberal spirit in which Harvard College was founded. John Harvard's gifts, and the contributions of successive friends of learning in the early times, were noble examples—small in amount, but large in proportion to their worldly means—and nobly have they been followed by the Hollises, the Alfords, the McLeans, the Gores, the Eliots, the Phillipses, the Lawrences, the Appletons, the Grays—time would fail to name them all—who have made the institution what it is. The state, animated by the spirit of the fathers, cherished the college, sometimes by annual appropriations and sometimes by special benefactions; but by far the larger part of its means, now in activity in all its departments, have come from private sources; in a great measure from the generous citizens of Boston, whose names will be forever identified with the progress of learning here. To the college proper have been successively added the divinity school, the law school, the medical school, the Lawrence scientific school, the botanical garden, and the observatory; and last, but not least in the bright array, the museum of natural history, built by private liberality and the enlightened munificence of the commonwealth. The college—Harvard College—the germinal institution giving its corporate name to the whole, and the other establishments grouped around it—make collectively the University. What is an university? It is a permanent establishment, in which all knowledge, all means of scientific and literary research, all the accumulations of study and experience are gathered together. It is built, not for one age, but for all ages; its aim is to advance the human race in all that exalts and dignifies the life of man. The recorded wisdom—the written speech of any civilized nation—should be treasured on the shelves of its libraries; its museums should contain every product of the handiwork of God: its laboratories should have every material and every instrument by which nature can be interrogated and the thoughts of the Almighty read. Men of the most distinguished genius, of the largest acquirements, should be drawn into its service. Studious and eager youth should find the ample page of learning ever unrolled. Withdrawn from the tumults of the world, and its maddening ambition, here truth alone should reign supreme. In the still air of delightful studies, here the growing intellect should ripen undisturbed by the passions which agitate society. A university should bind together the students who enter its halls in the hallowed friendship that grows from common pursuits of the noblest kind, and is nurtured by the generous sentiments native to the heart of uncorrupted youth. It should bind the ages together by the most elevating associations that can act upon the finer

feelings of the soul. For beneath its immemorial trees have walked the great and good of past ages, and the most illustrious of our contemporaries. In these apartments they studied and conversed, in these lecture rooms they listened to the learned men who guided their studies and trained their unfolding faculties to the great tasks of life. Here first they exercised their logical reason or glowing fancy on congenial themes. Every spot of ground, every shady tree, every trodden path, every wall, turret, pinnacle, is linked to sacred memories, that hallow the days of hope and youth passed here. We recall with delight such venerable images, such exciting thoughts. We seem to see the forms of illustrious men still haunting the places dear to them in the days long since gone; we seem to listen to the voices of the great orators whose fame has filled the world; of the poets whose song has added new charms to life; of the illustrious cultivators of science who have read the laws of nature or conversed with the stars.

> Rapt in celestial transport they,
> Yet hither oft a glance from high
> They send of tender sympathy,
> To bless the place where on their opening soul
> First the genuine ardor stole.

It is these associations of the present and memories of the past, that create the strong attachments cherished by the graduates of a college for the place of their education. The fond feeling that grows stronger with age, and kindles with a brighter flame as the lamp of life burns dim, is that of a child for its mother. If a college education added nothing more to the sum of human felicity than the consciousness of this tender love for Alma Mater—the cherishing mother of our minds—it would be among the best and most effective agencies for the progress and refinement of society.

We are already far enough removed from the beginnings to have the sense of antiquity steal with its softening influence over us, as we recall the past of Harvard University. Ancient visages adorn our walls and look down from the canvas upon our festal assemblies. We begin to count our years by centuries. Quaint traditions have descended to us from the days of the Fathers; and the hues of eld are creeping over our academic halls. "My own belief," says Dr. Arnold, "is that our colleges of Oxford and Cambridge are, with all their faults, the best institutions of the kind in the world—at least for Englishmen." And so I say, "My own belief is, that our colleges of Cambridge, and Amherst, and Yale, and others like them, are the best institutions of the kind in the world—at least for Americans." I have felt the mighty rush of solemn and impressive associations that sweep like a tide upon the soul at Oxford and Cambridge. I have paced the quadrangles, meditated among the cloisters, read in the libraries, and wandered over the green lawns and soft meadows in those old university towns; I have gazed on the portraits and statues of their illustrious men; I have delighted my sight with the

architectural splendors of their venerable colleges, chapels, schools and theaters. The effects of the education there obtained are wonderful and admirable. We see a body of gentlemen formed under this influence unsurpassed in the world; we see a dignified and learned clergy; statesmen blending the classical tastes they have acquired there, with manly abilities in practical affairs, adorning the drudgery of business and the details of official duty with the graces of the muse; Canning, and Pitt, and Fox, refreshing their energies exhausted in the strife of the Senate, or with the cares of government, by gladly drinking at the Pierian spring; Brougham writing essays on ancient eloquence, and translating Demosthenes; Carlisle, filling the interval between two vice-royalties by studying on the spot the topography of Troy; Gladstone, illustrating the scholarship of the age, while unbending from the severe toils of arranging the budget and adjusting the revenues of a mighty empire, by writing three volumes on Homer, which henceforth no student's library can be without—these great scholars and statesmen tell us what the highest forms of English education do for the leaders of thought and action in our mother land.

Again, the German universities have been justly held up to our admiration—not quite so justly to our imitation. The vast erudition of the German professors—their profound speculative powers—the gigantic contributions they have made to the treasures of learning, entitle them, as a body, to our reverence. They have made the study of the German language a necessity to learned men every where. The freedom of their lecture rooms, the endless accumulation of books in their libraries, the liberality with which the stranger is allowed to avail himself of them, give the German universities a prominent and most beneficent position in modern culture. He who denies this because German speculation has sometimes lost itself in the clouds of mysticism, or because German rationalists have sometimes attempted to undermine the established truths of history, sacred and profane, by the senseless jargon of the "mythical theory"—or because a few German naturalist—naturals they should be called—have striven to dethrone the Creator, and to set up in his place an inexorable law, as the Merimnophrontistae of the old comedy exalted Dinos to the place of Zeus—he who, offended by these intellectual excesses, rejects the good there is in the profound and faithful studies of German scholars and philosophers, runs into a fanatical extreme in the opposite direction. The German scholars and German universities have performed an important part, and perhaps have a still more important part to perform, in the progress of science and letters. Recognizing fully the merits of the English and German universities in their respective spheres, I yet do not hesitate to compare our New England system—not in a boastful, yet not in a deprecatory spirit—with theirs. American colleges have a somewhat different task to accomplish from that either of the German or the English. The young American, passing from the university into the world, is seized by the current of events and strongly and inevitably borne along. All too soon he becomes a politician,

philanthropist, reformer. The questions which agitate the age as the winds lash the heaving ocean, belong not, at least in their party aspect, to academic life. The young man here must learn the principles which shall help him to meet them when the moment comes. Let there be at least these short years of calm for intellectual growth. Let there be no premature excitement of passions, however laudable in themselves, by turning the thoughts of academic youth from liberal pursuits in this brief prelude, soon to be followed by the tragic complications, the fierce emotions, the bitter, unsparing warfare that rages over the field of life. Here let a barrier to the encroaching sea of political and philanthropic strife over which it may not pass be raised. Let our academic holidays be the truce of God wherein all may lay aside their armor and meet on the common ground of the *Litera Humaniores*—the Humaner letters, as good learning was once beautifully called. There are places enough, times enough, occasions enough for the *gaudia certaminis*—the joys of battle. For God's sake, let the din of war never be heard in the grove of the academy. Our young American needs more than the European youth, the training that shall give him composure and self-command; that shall give him the mastery of his faculties, and the habit of steady action. He is a citizen of a vast republic wherein every man has his career to open, his fortune to make, his success to achieve. He feels every moment the social or party pressure, and the weight of individual responsibility. These very circumstances make the period in which we live one which tempts the young man into premature activity. He is allured into the busy scene when his faculties are but half unfolded; his principles are yet uncertain; his views vague; his hopes gorgeous as the rainbow, and perhaps as fleeting and unsubstantial. His tastes are unformed and his moral being crude as the unripe fruit of early summer. A solid character is not the growth of a day; the intellectual faculties are not matured without long and vigorous culture. To refine the taste is a laborious process; to fortify the reasoning power with its appropriate discipline is an arduous undertaking; to store the mind with sound and solid learning is the work of calm and studious years. It is business of the higher education to check this fretful impatience, this crude and eager haste to drink the cup of life; to exhaust the intoxicating drafts of ambition. By our laws a man becomes his own master at one-and-twenty. Our Constitution provides that the President of the United States must be at least thirty-six; and Aristotle makes this same age the suitable one for a man to marry. True it is that one man is older, in all that constitutes true manhood, at five-and-twenty, than another who has passed his grand climacteric. This difference comes partly from natural endowments; but chiefly it is made by the different use of natural endowments. The one has dawdled life away, half asleep or something worse, till all the energies he had are made unfit for use. The other was probably fortunate in the early discipline of parents, who knew better than to yield to his childish folly; who neither spoiled his bodily health by indulging his appetites, nor his mental health by yielding to him

when he shrank from toil, as all boys will shrink at times. He passed from school to college, applying the manly habits already formed to the appropriate labors of the place, shirking no task, however trying, on any plea of laziness or dissipation. He enters life in the glory of his early manhood, with faculties unfolded, strengthened and alert; joyously marching on his way, however steep and hard, to assured success; helpful he to others who can not help themselves; master of his passions; no fanatic of one idea, but giving hospitable welcome to all good thoughts, which ripen in his true and genial nature into virtuous action. Such is the educated youth, such is the champion of stainless honor, armed with weapons of immortal temper, whom Harvard loves to send forth into the world to do heroic work. The young man who would achieve lasting renown must learn to curb his fiery impulses and subdue the wanderings of his impassioned thoughts; and this the studies of the University most readily help him to do. I do not say there is no other way of achieving this result. But this is the shortest and most effective way. Great men conquer great difficulties, and show themselves great in doing so; but they remember what the difficulties were, and strive to put them out of the way of their successors. Washington and Franklin were not university men; but the former recommended, and the latter founded a university. Franklin was not a classical scholar, but he provided the means whereby others should become classical scholars, and wishing to make a present to our library which should signalize his appreciation of good learning, he sent—not poor Richard—but a handsome copy of Virgil. But if severe training be necessary for effective mental action, what room is left for spontaneous impulse, some may ask—what channel for inspiration? For among those who question the ancient methods, we hear a great deal said about inspiration and spontaneity—pardon me the word, I never used it before. Without discipline there is no spontaneous action worth having; no inspiration that deserves to be listened to. St. Paul drew an illustration from the Grecian games; let me ask the advocates of spontaneity what they think of the principle as applied to the boat races in which our young friends have so much distinguished themselves. Are the careful diet, the early hours, the daily testing of vigor and skill, the total abstinence from hurtful drinks and food, the training of the eye, the ear, the hand—are all these spontaneous actions? Does the man who pulls the stroke oar do it by spontaneity? I know not—I never tried it—but I should not like to pull against such a man with all the spontaneity I could muster. The most beggarly ballad singer that earns his daily bread by twanging his harp and singing his poor old songs at cottage doors, has won his skill of hand and voice and style by long and persistent training. The immortal verse of Homer was no careless outpouring of sudden impulse. We may be sure that the unapproachable perfection of his transcendent composition was the result of long and careful cultivation. It is true that he inherited a language formed under the happiest influences of nature, by a race who possessed a manly vigor and an exquisite susceptibility to the beauty of sound and

form. The Ionic Greek, which he learned from his mother's lips, was the most wonderful instrument on which poet ever played. For every mood of man's changing mind; for every affection of the heart; for every form of outward nature it possessed that peculiar felicity of expression which places the things described directly before the hearer. And Homer inherited from his birth each gift and grace with which the gods have ever crowned their darlings. His vigilant eye let no object, great or small, escape its lightning glance: his ear drank in the melodies of nature and art; his exquisitely strung nerves vibrated to every breath of heaven, every voice of passion, every stirring impulse of the soul. But he stored his mind with all the knowledge of his age. He traveled over the ancient Grecian world, and with a keenness of observation which no naturalist of modern times has ever surpassed, he noted the phenomena of Nature on the bosom of the stormy sea, on the resounding shore, in the silence of the star-lit night, at the rising of the sun, at the setting of the Pleiades. And when the inspiration came upon him, and his thoughts voluntarily moved harmonious numbers, the thought, and knowledge, and discipline were there; the listening throngs at the Ionian festivals knew that they stood in the presence of the greatest creative intellect—the wisest of men—the favorite of the heavenly powers. From that day to this the law has remained the same. The gods have placed labor before excellence, and the condition is inexorably exacted. The superiority of genius is not only a superiority of natural endowment, but a force of will and a faculty of toil that bring all natural endowments into the highest and the most efficient activity.

The proper objects of a university are twofold; 1, educating young men to the highest efficiency of their intellectual faculties, and to the noblest culture of their moral and religious natures. To accomplish this end, both experience and reason have shown that the study of the classical languages of antiquity—the Greek and Latin—the mathematics and the physical sciences and intellectual philosophy, are the best means. Other sciences and other departments of literature are added, according to time, taste and inclination, for practical utility and literary accomplishment. Modern languages are provided for as the keys to the precious treasures of literature in which the cultivated nations of Europe have embodied their best thoughts. The two great languages of antiquity have been taken as the basis of literary culture, first, because, as languages, as instruments for the expression of thought, they stand in the long line of Indo-European tongues, and in the long succession of centuries, at the highest point of perfection. Speech in itself is one of the grandest and most beautiful objects of study. Taking it in all its relations and forms, we may call it the chief distinction of man. It is one of the divinest miracles of our being. When we speak we set in motion an organism framed with inexpressible skill by the hand of the Almighty Creator. What curious and subtle adaptations have been contrived to make the art of speech not only possible but easy—so easy, and so natural, that we never pause to reflect upon the miracle of the phenomenon. The articulating

organs, so exquisitely constructed and adjusted; the elastic air, that serves so many other wonderful purposes in the economy of the universe; the intellect, created as all science shows, in the image of the Divine mind, transmitting its commands from the brain, where it sits enthroned like a god, along the speeding nerves to its servants, the articulating organs; the impulse moving on the wings of the breeze, sweeping through intervening space, knocking at the porches of the ear, and delivering the message—a bodiless thought—to another kindred mind. How common-place, how mysterious, how divine! No wonder that Rhenius, a missionary in the East, in the preface to his "*Tamil Grammar*," exclaims: "To God, the Eternal and Almighty Jehovah, and Author of speech, be glory forever and ever." But these two languages are not only the perfection of the forms of speech; they contain the most admirable compositions in every species of literature which stand in point of time also at the head of that European civilization to which we belong. Nothing can change the past; the position they occupy, the influence they have exercised over the course of thought and the forms of literature are immutable facts. Whatever progress the nations may make, the Greek and Roman writers stand as the venerable teachers of the European world. You can not cut off the fountain head; you can not stop the stream. To the end of time the great classic authors of Greece and Rome will be the models of all that is noble in expression, elegant in style, chastened in taste. Doubtless the ages advance in knowledge and culture as they advance in time. But the twin peaks of Parnassus still rise, and only one poet soars to the side of Homer. The Bema stands silent and solitary in Athens, and no orator has ascended its steps and plucked the crown from the brow of Demosthenes.

The Cephissus and the Ilissus listened to the philosophy of Plato and Aristotle; but no modern Cephissus and Ilissus so haunt the memories of cultivated thinkers as these slender streamlets. He would be a bold man who asserted that any dramatist has surpassed or that more than one has equaled Æschylus and Sophocles. There have been many more populous and wealthy cities than Athens, but only one Athens has illustrated the history of man—there has been but one Athens in the world. Time has not dimmed her ancient glories; her schools still school mankind; her language is the language of letters, of art, of science. There has been but one Acropolis over which the virgin goddess of wisdom kept watch and ward with spear and shield. There has been but one Parthenon, built by the genius of Architecture, and adorned with the unapproachable perfections of Phidian statues; and there it stands in the pathetic beauty of decay, kindling in the blaze of the noonday sun, or softly gleaming under the inexpressible loveliness of the full moon of Attica.

Great moralists have taught the lessons of wisdom and goodness in every generation of men; but only the Son of God rose to diviner strains than Socrates, whose teachings of the obligations of duty, the immortality of the soul, the forgiveness of injuries, the certainty of judgment to come,

sanctify the rocky chamber where he held those dialogues recorded by the most beloved of his disciples, and where, when the great discussion ended, and the setting sun was still lighting the hill of Mars and the Acropolis with its unequaled glories, he died a martyr's death because he would not disobey his country's laws.

A liberal education, a university education, aims to train the mind in these high studies, to make it familiar with these inspiring examples, to refine the taste, exercise the judgment, soften the heart, by these humanizing arts. I have dwelt a few moments on this department of university education, partly I suppose, because the studies of my life have been more especially consecrated to its cultivation; but partly also because the utility of these pursuits and their fitness to hold the prominent place which our system assigns them, have been vehemently questioned. The discipline of the exact sciences and their practical usefulness, the importance of cultivating the powers of observation, and guarding against the illusions of the senses, the value of a careful initiation into the philosophy of the mind, and the political sciences, no man in his senses ever denied, and I have no time now to waste on idiots.

I believe the education founded on the studies of which I have spoken, is the best for a young man considered as a rational being; and if best for a young man as a rational being, it is also the best preparation he can have for any special department of life. He will not only be the better lawyer, clergyman, physician, for having had it, but he will be the better citizen, the better merchant, the better banker, the better every thing. The late Colonel Perkins told me that if he were then in active life, and had to choose between two young men for his counting-house, of equal natural abilities, of equal excellence of character, the one having received a college education, with no special preparation for business, the other with a good school education and the most careful training in book-keeping, and the other arts which have a special bearing on commercial pursuits, he should take the college man. The ground of judgment taken by that eminent and very able merchant was that the college man could easily master the details of the business, with the general culture his education had given him, so as to be equal to his rival in that special thing, and that done, he would always be, in other respects, the superior. And I have been told by an eminent professor of natural science, who formerly belonged to a foreign university into which came pupils from the gymnasia, where a classical course was required, and others from the so called real schools, where the studies were exclusively practical and scientific, that invariably the classical men were the best in the study of the natural sciences, for which the preparation of the others, in a superficial view, would be supposed to have best qualified them. The reason was the same as that given by the merchant: the gymnasia furnished a more complete exercise of the intellectual powers, and he who had been subjected to it was better fitted for *any* special department in the university. I think these views are sound and philosophical; and while I do not claim that a university education is essential to professional pursuits,

practical business or public life, I would strongly urge it upon every young man looking forward to either of these careers, who can command his time and has the means. Our assemblage of institutions adapt themselves, however, to the various conditions and objects of men. We do not require a young man to pass the undergraduate department in order to enter the scientific or professional schools, because we know that many who will greatly profit by these schools can not spare the time required by the college, yet I have not the slightest doubt that in every one of these cases a previous college course would in after-life prove to be an inestimable blessing. I should be glad to illustrate this topic at greater length, but passing time warns me that I must forbear. Socrates deemed himself happy that he was about to migrate after death to a blessed region where he should meet and converse with the souls of Homer, and Hesiod, and other good and famous men. The scholar now may enjoy the anticipated happiness of Socrates. He may read the very words, glow with the very thoughts, fill his memory with the very images that revolved in the capacious genius of the old Ionian singer, whose undying verse still reproduces the Hellespontine shore, echoes with the multitudinous plashing of the sea, and repeoples with heroic forms the plain of Troy, over whose silent fields the Simosis and Scamander steal their languid way, as the traveler, Iliad in hand, sweeps along the sparkling waters, with Ida, Gargarus, and the Mysian Olympus in sight while Tenedos, and Imbros, and Samothrace, rich with poetical memories, flash like gems on the bosom of the Ægean deep. An English gentleman—Mr. Calvert—owns the immortal plain, and is reclaiming it with British capital from the exhaustion of centuries of barbaric possession. But the genius of Homer holds it by an older title, inalienable, recognized by the whole educated world; and the scholar who sails its neighboring waters, and treads its shores, is the guest of him who has possessed it by the right of song for more than three thousand years. Is it not something, too, to tread the Bema—that illustrious rock—and recall the majestic words of Demosthenes, which entranced the souls of his countrymen, and kept the arms of Philip and Alexander for twenty years at bay—the very words of matchless grace and resistless force, wherein the master's fiery inspiration flowed? Is it not something to repeat the very phrases in which Plato delivered his divine philosophy to his disciples, while the breezes played among the weird old olive groves, sacred to Minerva, and the silvery waters of the Cephissus went murmuring by, more than two thousand years ago? When Cicero visited Athens, he turned aside at the Peiraic gate and passed up the plain to the shady walks of the academy, that he might refresh his soul with the exalting associations of the spot, even before he beheld the wonders of art that crowned the Acropolis, or conversed with the accomplished men who in that age still crowded the gardens, the schools, the Leschæ, and the porticos. To the scholar of the present day the enjoyment is more exquisite, the delight of such associations more intense.

But I must tear myself away from these classic memories, that recall

moments that were eras in the intellectual life—hours, happy hours, too quickly fled.

I have said that the object of a university was partly to educate the young—the picked and chosen youth of the country; but it is also in part the duty of the professors to add to the literature and science of their respective departments. The university that fails to do this, fails in an essential portion of its proper business. For the men of Harvard I proudly and gratefully appeal to the judgment of the world. Natural and mathematical science, law, philosophy, poetry, are daily receiving important accessions from the heads and hands of our professors. Leading works in all the provinces of the intellectual domain might be enumerated produced within the last ten years. But in this presence I forbear. In the other branches of academic duty, the all important question is, does the training of Harvard rear up a race of men, high minded men? Public and private munificence has built and filled yonder library and these learned halls. The same generous spirit has endowed these professorships. Have the objects of all these noble endowments and costly sacrifices been attained? Are all these diligent labors, these watchful cares daily and nightly exercised by the academic body, rewarded by the bright accomplishments and honorable characters of the young men who annually go forth from these ancient halls into the busy world? If not, let the ancient halls crumble to the earth; let yonder noble library be scattered or burned by invading barbarians; let yonder museum, which now contains in its ample spaces an organic world, be leveled brick by brick, and the naturalist who rules there return to the land whose great loss we have thought our exceeding gain in his coming. But no; the halls, libraries, museums, shall stand, and their means of progress and utility shall be indefinitely enlarged. The naturalist shall stay where he is. There is no end to the public and private blessings they confer. Proudly and gratefully I go before the world with these graduates of Harvard—from the noble man who stands at the head of the long catalogue of illustrious living names, to the class that received their diplomas yesterday.

There are some who doubt the wisdom of our system and the fitness of our discipline, but behold the results. I make no boastful comparisons, but wherever I meet a Cambridge man I know that I am in the society of a gentleman. I think I have known the Cambridge student long enough to understand his qualities. I know that he sometimes sports fantastic and paradoxical theories of his own rights, especially as against the faculty; I am aware that he sometimes labors under the most incredible delusions as to the insidious designs of tutors and proctors against his peace and dignity, for I have been a tutor and a victim; but I doubt if the faults of students are as great as those that other bodies of young men, if assembled in equal numbers, would exhibit. I am convinced that they have better safeguards against serious moral dangers than other young men enjoy. Nowhere, I think, is the influence of high character more powerful or pervading. I know of no form of society where, with the greatest inequality of social condition and wealth, such absolute justice

is done to merit. Rich and poor, country boys and city boys, candidates well prepared and candidates ill prepared, here come together. In spite of their errors of opinion and conduct, as towards the authorities under which they are placed, in their bearing toward each other, in the honors they award to each other, I firmly believe that no society of men in the world, young or old, are governed by a more absolute sense of perfect and impartial justice. We used to hear in former times of charity scholars. Young men destitute of this world's goods, but rich in hope and aspirations, were above the false pride of refusing to perform services which the more fastidious tone of our day would perhaps call unmanly, to earn thereby money to pay, in whole or in part, the cost of their education. The rich classmates of such a young man never made them feel, by scornful look or haughty manner, or stinging allusion, the sense of inequality. The same scholar who, in common's hall, waited upon his wealthier classmates, or rang the morning bell, or kindled the fire in the recitation room, presided in the evening over one of the literary societies, into which the rich young man felt himself honored to be admitted as a common member. *Haud inexpertus loquor.* This generous principle of scholarly association, making a student's position in the most important respects dependent upon what he *is*, and not upon what he *has*, is a noble characteristic of college life. But the poor scholars are not the only charity scholars. Rich and poor are alike the beneficiaries of the founders and benefactors of the university. In the eye of the law, the college is only a great charity. The teaching of the learned professors, the use of these museums and libraries, the countless benefits of a residence here, are procured for rich and poor alike, from what or by whom? Not from the money paid in term bills, but from the well directed charities of past generations and the present. These precious opportunities, which money can not purchase, are open to the richest as well as the poorest, for half the sum paid for tuition at some of our private schools. The wealthiest scholar is dependent on charity for at least five-sixths of what his education costs, and the poorest only for a trifle more. The difference between the richest and the poorest this year has been but thirty dollars. Every student who has ever graduated here, whether he waited at table, made fires, rang bells, kept monitors' bills, or not, has been a charity student—nothing more.

Under these varied and contrasted influences the general type of character formed here is one in which truth, honor, generous feeling, brotherly kindness, most generally and permanently prevail. We meet it in all the walks of life, in practical affairs, in the professions, in church, in state. It is not often found in its highest development, but when it is, how lovely does it rise before us. Purity, manliness, and ardent youth go well together. The union of these high qualities with the gracefulness of opening life and glowing manhood, is every where a lovely spectacle, which the gods may contemplate with delight. Nowhere is it lovelier or more beloved than among its kindred youth at college. Have you not watched him in his daily walk? Refined in manners, gentle in

bearing, quiet in speech, and never uttering a coarse word or a doubtful jest, he moves like the angel of Milton, severe in youthful beauty. He is devout and religious without ostentation, but without the dread of showing it on all fitting occasions. The harmony of his life is felt by the lightest of his companions. Do his fellow students doubt his virtue, sneer at his purity, scorn his gentleness? He who thinks so greatly misjudges their generous natures. In his calm and saintly presence vice shrinks abashed, and tries to hide her ugliness; loose phrase and suggestive song die away upon shamed and silenced lips. His speech is precious as gold; his opinion sways like the sentence of a sage; his father's pride, his mother's joy, the idol of his sister's heart—is this being a dream of fancy? God forbid. I seem to see him now, standing in bodily presence before me. Alas! he sleeps in yonder city of the dead. His memory, crowned with amaranthine virtues, is the viewless presence in which he lives among us.

Gentlemen, it is high time for me to close. God grant that we may all work in harmony for the prosperity of the common mother of our minds. God grant that these young men, who come up year by year, may under the influences of the place be strengthened for every good word and work. If I may be thought, hereafter, to have wrought in some humble measure toward the consummation of my hopes, that will be renown enough.

VI. HARVARD COLLEGE.*

1636—1654.

In 1636, six years after the first settlement of Boston, the General Court, or Legislature, of the colony of Massachusetts Bay, which met at Boston on the 8th of September, and continued in session until the 28th of October, passed an act† appropriating £400 toward the establishment of a school, or college. The sum thus set apart was more than the whole tax levied on the colony, at that time, in a single year. The civilized portion of the population did not exceed five thousand persons of all ages, and these were scattered thinly through ten or twelve small villages, in a country whose resources was not yet developed, and of which so little was known, that it might be said to be unexplored. But in all these villages, the magistrates and ministers were educated men—many of them were eminent graduates of the university of Cambridge, and not a few of them had taught in the public schools of England. These men gave direction to the educational policy of the colony, which resulted in the establishment of public schools and colleges, so that "learning was not buried in the graves of the fathers in church and commonwealth."‡

In 1637, Governor Winthrop, Deputy-Governor Dudley, Counselors Humphrey, Harlaskenden, and Houghton, and the Ministers Cotton, Wilson, Davenport, Wells, Shepard, and Peters, were appointed by the General Court "to take order for a college," which, in the same year, was located in Newtown, and which name was changed, in 1638, to Cambridge, in remembrance of the place where so many of the leading colonists had received their education.

In 1638, the Rev. John Harvard, who came to Charlestown in 1637, gave by his will the sum of £779 17*s.* 2*d.* in money, and more than three hundred volumes of books. It is to be lamented that so

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* This sketch will follow substantially Eliot's "*History of Harvard College.*"

† "The Court agreed to give £400 toward a school or college, whereof £200 to be paid next year, and £200 when the work is finished, and the next Court to appoint where and what building." For List of Legislative Grants, *see* Appendix, p. 139.

‡ "The ends for which our fathers did chiefly erect a college in New England, were that so scholars might be there educated for the service of Christ and his churches, in the work of the ministry, and that they might be seasoned in their tender years with such principles as brought their blessed progenitors into this wilderness. There is no one thing of greater concernment to these churches, in present and aftertimes, than the prosperity of that society. They can not subsist without a college"—*Dr. Increase Mather.*

very little is known of a man whose name is deservedly commemorated in that of the college, to which his bequest was so timely and so bountiful an aid. He had been but a few months in the colony, though long enough to acquire the respect of his associates, and to excite in himself the strongest sympathy with the effort to extend the means of education. He was a scholar, as well as an orthodox divine, and a practical Christian; and it is a striking characteristic of the age, and of the individual, that a man of such character, and in such circumstances, should have been found in his position. The sum above named was but half of his property, and must be esteemed equal to six or seven times the same nominal amount at the present day—sufficient, certainly, to secure to its possessor the comforts of life, as they would then have been esteemed. And yet he leaves his native country, a voluntary exile, and resorts to the feeble settlement of a scanty colony, in an unknown wild, and preaches the gospel to the little flock that can be found there to attend his ministrations. If there be such a thing as strength in the human character, or elevation of purpose, and superiority to worldly advantages, in the human heart, surely they were exhibited by John Harvard.*

The first class was formed in 1638, under the care of Mr. Nathaniel Eaton—but whether as a preparatory or collegiate class does not appear. It is certain, however, that Mr. Eaton enjoys the bad pre-eminence of being mentioned as one of the earliest schoolmasters in New England, who disgraced his calling as a teacher of "the school at Cambridge," by bad temper, unjustifiable severities, and short commons.

In 1640 the General Court granted to the college the income of the Charlestown ferry; and in the same year, the Rev. Henry Dunster arrived from England; and so eminently qualified was he by learning, ability and virtues for the office of president, that he was placed in it at once by a sort of acclamation and general consent. He was inducted into the office on the 27th of August, 1640. Under his administration, and principally by his efforts, a course of study was prescribed, a code of laws for the government of the students was framed, the ceremonial of the annual commencement and conferring of degrees was instituted, and a charter, the first corporation created by the General Court, and which still remain as the fundamental law of the oldest literary institution in this country, was obtained. Probably the college never had a more able, faithful, and devoted officer than President Dunster, and yet all his services to the cause of good learning could not protect him from being indicted by the grand jury

* For "Memoir of Harvard," and Mr. Everett's address on erecting a monument to his memory in 1828, see Barnard's "*American Journal of Education*," Vol. V., p. 521–34.

for disturbing the ordinance of infant baptism by preaching *antipedobaptism* in the church of Cambridge, of which he was pastor. He was tried, convicted, and sentenced to receive admonition on Lecture Day,* and to be laid under bonds for good behavior; and so strong was the pressure against him, that on the 24th of October, 1654, he resigned the presidency, and retired to Scituate, in the jurisdiction of Plymouth Colony, where he died in the following year. In compliance with his dying request, his body was brought back to Cambridge, that it might rest near the college which he had loved and served so faithfully.

Some of the provisions in the laws for the government of the college, drawn up by President Dunster, presents a vivid picture of the manners of that age. "They [the students] shall honor, as their parents, the magistrates, elders, tutors, and all who are older than themselves, *as reason requires*, being silent in their presence, except when asked a question, not contradicting, but showing all those marks of honor and reverence which are in praiseworthy use, saluting them with a bow, standing uncovered," &c. The use of their mother tongue was prohibited, and perhaps so much might be effected by law even now; but it would be entirely unsafe to predict what would be the substitute for it in familiar use. Latin, surely, would scarcely be thought of.

The mode of discipline authorized by the "seventeenth rule" is a recorded proof of what otherwise might have rested on obscure tradition only, that our fathers, in common with their contemporaries generally, were not well informed upon one characteristic of human nature, at least. The degrading and brutalizing effect of stripes has been so often, so eloquently, and so learnedly demonstrated in modern times, and has been shown, besides, by the experience of so many ages, that it has become a matter of especial wonder that the generations which grew up under such a liability did not relapse into barbarism, rather than make any further progress toward civilization. We, of the nineteenth century, sympathize deeply, and even painfully, with the feelings, wounded and indignant as they must have been, of a future baronet, a governor, three presidents of the college, and thirty-seven ministers of the gospel, to say nothing of the less distinguished individuals, all of whom were exposed, for the four years of their college life, to the cruelty permitted in the following law, sanctioned by Dunster. "If any student shall violate the law of God and

* Lecture Day—Rev. Dr. Cotton commenced the practice of a public discourse on Thursday of each week, which was attended by the devout from all the villages about Boston, and has been continued to the present time.

of this college, either from perverseness, or from gross negligence, after he shall have been twice admonished, *he may be whipped*, if not an adult; but if an adult, his cause shall be laid before the overseers, that notice may be publicly taken of him according to his deserts. In case of graver offences, however, let no one expect such gradual proceedings, or that an admonition must necessarily be repeated in relation to the same law."

The enforcement of the "twelfth rule" would, in these days, certainly afford frequent occasion for both the admonition and the rod, and one can not but suspect that, even then, the police of the college must have had some calls for activity, both in word and in deed. "No scholar shall buy, sell, or exchange any thing of the value of sixpence, without the approbation of his parent, guardian, or tutor. But if he shall do so, he shall be fined by the president, according to the measure of his offence."

The first commencement at Harvard College, was holden on the 9th of October, 1642, when nine candidates took the degree of Bachelor of Arts.* "They were young men of good hope," remarks Gov. Winthrop, "and performed their parts so as to give good proof of their proficiency in the tongues and arts. Most of the members of the General Court were present, and for the encouragement of the students, dined at the "ordinary commons." Thus commenced flowing out that current of cultivated intellect, which has widened and deepened into more than a mighty stream, and exerting a powerful influence over the social life and public sentiment of each successive generation for more than two centuries.

In 1642 the General Court, held at Boston, passed the following "*Act establishing the Overseers of Harvard College:*"—

Whereas, through the good hand of God upon us, there is a College founded in Cambridge, in the county of Middlesex, called HARVARD COLLEGE, for the encouragement whereof this Court has given the sum of four hundred pounds, and also the revenue of the ferry betwixt Charlestown and Boston, and that the well ordering and managing of the said College is of great concernment;

It is therefore ordered by this Court, and the authority thereof, that the Governor and Deputy Governor for the time being, and all the magistrates of this jurisdiction, together with the teaching elders of the six next adjoining towns, viz., Cambridge, Watertown, Charlestown, Boston, Roxbury, and Dorchester, and the President of the said College for the time being, shall, from time to time, have full power and authority to make and establish all such orders, statutes, and constitutions, as they shall see necessary for the instituting, guiding, and furthering of the said College, and the several members thereof, from time to time, in piety, morality, and learning; as also to dispose, order, and manage, to the use and behoof of the said College, and the members thereof, all gifts, legacies, bequeaths, revenues, lands, and donations, as either have been, are, or shall be, conferred, bestowed, or any ways shall fall, or come, to the said College.

* See APPENDIX VI. for the Statutes, &c.—reprinted entire from Quincy's "*History of Harvard College.*"

And whereas it may come to pass, that many of the said magistrates and said elders may be absent, or otherwise employed about other weighty affairs, when the said College may need their present help and counsel,—It is therefore ordered, that the greater number of said magistrates and elders, which shall be present, with the President, shall have the power of the whole. Provided, that if any constitution, order, or orders, by them made, shall be found hurtful to the said College, or the members thereof, or to the weal-public, then, upon appeal of the party or parties grieved, unto the company of Overseers, first mentioned, they shall repeal the said order, or orders, if they shall see cause, at their next meeting, or stand accountable thereof to the next General Court.

In 1643 a vote was passed by the governors of the college to adopt a common seal, in a form which has the qualities of simplicity and appropriate beauty. Three books were spread open on a shield, and upon them was inscribed the word VERITAS, expressing in the most emphatic manner, the object of the institution, and indicating the most prominent means by which it was to be attained. It does not appear that this device was ever engraved, or used; though it has the merit of being more comprehensive, and more simple, than the first seal which was actually used, and which had the motto "IN CHRISTI GLORIAM." This, as it would be ordinarily understood, conveys the erroneous impression that the institution was designed to be, or that it actually was, a theological school; and such an idea is still more directly countenanced by the motto subsequently introduced, and which is still in use, CHRISTO ET ECCLESIÆ. VERITAS includes every species of truth, and is therefore more strictly in unison with the known plan and character of the college. The simplicity of the device, characteristic of that age, recommends itself to the best taste of all ages.

In 1642 and 1643 many large donations of money, types, books, &c., were made by persons in England, and in the colony. Some of the money which came from abroad was taken by the General Court, and interest was allowed for it, at the rate of more than nine per cent. This was continued for many years, and then discontinued for some time; till at length, in 1713, the original sum was repaid, with interest at six per cent. from 1685.

In 1650 a charter was granted by the General Court, by which the President, five Fellows, and a Treasurer were made a "Corporation," with power of perpetual succession, and of doing many, nay almost all necessary acts "for the advancement and education of youth, in all manner of good literature, arts and sciences."

The Charter of the President and Fellows of Harvard College, under the Seal of the Colony of Massachusetts Bay, and bearing date, May 31st, A. D. 1650.

Whereas, through the good hand of God, many well-devoted persons have been, and daily are, moved, and stirred up, to give and bestow, sundry gifts, legacies, lands, and revenues, for the advancement of all good literature, arts, and

sciences, in Harvard College, in Cambridge in the county of Middlesex, and to the maintenance of the President and Fellows, and for all accommodations of buildings, and all other necessary provisions, that may conduce to the education of the English and Indian youth of this country, in knowledge and godliness.

It is therefore ordered and enacted by this Court, and the authority thereof, that for the furthering of so good a work, and for the purposes aforesaid, from henceforth, that the said College, in Cambridge in Middlesex, in New England, shall be a Corporation, consisting of seven persons, to wit: a President, five Fellows, and a Treasurer or Bursar; and that Henry Dunster shall be the first President; Samuel Mather, Samuel Danforth, Masters of Art, Jonathan Mitchell, Comfort Starr, and Samuel Eaton, Bachelors of Art, shall be the five Fellows; and Thomas Danforth to be present Treasurer, all of them being inhabitants in the Bay, and shall be the first seven persons of which the said Corporation shall consist; and that the said seven persons, or the greater number of them, procuring the presence of the Overseers of the College, and by their counsel and consent, shall have power, and are hereby authorized, at any time, or times, to elect a new President, Fellows, or Treasurer, so oft, and from time to time, as any of the said persons shall die, or be removed; which said President and Fellows, for the time being, shall for ever hereafter, in name and fact, be one body politic and corporate in law, to all intents and purposes; and shall have perpetual succession; and shall be called by the name of President and Fellows of Harvard College, and shall, from time to time, be eligible as aforesaid, and by that name they, and their successors, shall and may purchase and acquire to themselves, or take and receive upon free gift and donation, any lands, tenements, or hereditaments, within this jurisdiction of the Massachusetts, not exceeding five hundred pounds per annum, and any goods and sums of money whatsoever, to the use and behoof of the said President, Fellows, and scholars of the said College; and also may sue and plead, or be sued and impleaded by the name aforesaid, in all Courts and places of judicature, within the jurisdiction aforesaid.

And that the said President, with any three of the Fellows, shall have power, and are hereby authorized, when they shall think fit, to make and appoint a common seal for the use of the said Corporation. And the President and Fellows, or major part of them, from time to time, may meet and choose such officers and servants for the College, and make such allowance to them, and them also to remove, and after death, or removal, to choose such others, and to make, from time to time, such orders and by-laws, for the better ordering, and carrying on the work of the College, as they shall think fit; provided, the said orders be allowed by the Overseers. And also, that the President and Fellows, or major part of them with the Treasurer, shall have power to make conclusive bargains for lands and tenements, to be purchased by the said Corporation, for valuable consideration.

And for the better ordering of the government of the said College and Corporation, Be it enacted by the authority aforesaid, that the President, and three more of the Fellows, shall and may, from time to time, upon due warning or notice given by the President to the rest, hold a meeting, for the debating and concluding of affairs concerning the profits and revenues of any lands, and disposing of their goods (provided that all the said disposings be according to the will of the donors); and for direction in all emergent occasions; execution of all orders and by-laws; and for the procuring of a general meeting of all the Overseers and Society, in great and difficult cases; and in case of non-agreement; in all which cases aforesaid, the conclusion shall be made by the major part, the said President having a casting voice, the Overseers consenting thereunto; and that all the aforesaid transactions shall tend to and for the use and behoof of the President, Fellows, scholars, and officers of the said College, and for all accommodations of buildings, books, and all other necessary provisions and furnitures, as may be for the advancement and education of youth, in all manner of good literature, arts, and sciences. And further, be it ordered by this Court, and the authority thereof, that all the lands, tenements, and hereditaments, houses, or revenues, within this jurisdiction, to the aforesaid President or College appertaining, not exceeding the value of five hundred pounds per annum, shall, from henceforth, be freed from all civil impositions, taxes, and rates; all goods to the said Corporation, or to any scholars thereof appertaining, shall be exempted from all manner of toll, customs, and exercise whatsoever. And that the said President, Fellows, and scholars, together with the servants, and other necessary officers to the said President, or

College appertaining, not exceeding ten, viz., three to the President, and seven to the College belonging, shall be exempted from all personal civil offices, military exercises, or services, watchings, and wardings; and such of their estates, not exceeding one hundred pounds a man, shall be free from all country taxes or rates whatsoever, and no other.

In witness whereof, the Court hath caused the seal of the colony to be hereunto affixed. Dated the one and thirtieth day of the third month, called May, anno 1650.

[L. S.] THOMAS DUDLEY, *Governor.**

1654—1672.

After the resignation of President Dunster, John Amos Commenius, of Moravia, received, through the younger Winthrop, overtures to accept the office,† but he was induced to bestow his educational labors in Sweden and Transylvania.

On the 2d of November, 1654, the Rev. Charles Chauncy, then on his way from Scituate, in Plymouth County, where he had been a minister for twelve years, to England, with a view of being reinstated in his former parish of Ware, was chosen President. He was born in Hertfordshire in 1589. Was educated at Westminster School and in Trinity College, Cambridge, in which he was afterwards Professor of Hebrew and of Greek, until he was settled over a parish in Ware. Here he became involved in the ecclesiastical troubles "*for opposing the making of a rail about the communion table*," for which he was finally silenced and suspended by Archbishop Laud, and in consequence betook himself to the colony of Plymouth in 1638. He was sixty-four years old when he took charge of the college, and his presidency was prolonged till death, February 19, 1672, in his eighty-second year. He was an indefatigable student, rising every morning at four o'clock the year round. It was his practice to devote between three and four hours every day to private devotion, and sometimes he spent whole nights in prayer. The church at Cambridge, of which

* A copy of the original, engrossed on parchment, under the signature of Governor Dudley, with the colony seal appendant, is in the custody of the President and Fellows of Harvard College.

† Dr. Cotton Mather, in "*Magnalia*," folio, London, 1702, Book IV., p. 128, after stating Dunster's resignation, says:—

"That brave Old Man, *Johannes Amos* COMMENIUS, the *Fame* of whose Worth hath been Trumpetted as far as more than three Languages (whereof every one is Endebted unto his *Janua*) could carry it was indeed agreed withall, by our Mr. *Winthrop* in his Travels through the *Low Countries*, to come over into *New-England*, and Illuminate this Colledge and *Country*, in the Quality of a *President*: But the Solicitations of the *Swedish* Ambassador, diverting him another way, that Incomparable *Moravian* became not an American."

Commenius was invited to visit England in 1641, to organize a system of public instruction for the Commonwealth. He visited London in that year, but the disturbances in Ireland so hindered his plans, that he abandoned that field and accepted a similar task in Sweden, where he had the countenance of Chancellor Oxenstiern and the aid of the Swedish Government. Had Commenius made either Old or New England his permanent residence, it is not too much to suppose that his publications and earnest personal efforts would have introduced the same educational reform which he inaugurated in Germany. See Memoir in Barnard's "*American Journal of Education*," Vol. V., p. 257–298.

he was pastor, after he had been with them a year or two, kept an entire day of *thanksgiving* to God for the mercy of enjoying such a preacher. Dr. Cotton Mather states: "The Fellows of the college once leading this venerable old man to preach a sermon on a winter day, they, out of affection to him, to discourage him from so difficult an undertaking, told him, 'Sir, you'll certainly die in the pulpit;' but he, laying hold on what they said, as if they had offered the greatest encouragement in the world, pressed the more vigorously through the snow-drift, and said, 'How glad should I be, if what you say might prove true.'"

During the term of office of "this venerable old man" the only Indian, who ever passed through the four years of college life, took his degree. Several were induced to attempt the civilizing process of a learned education; and at one time, the "Society for Propagating the Gospel in New England and the Parts Adjacent," erected a hall for their accommodation, at a cost of between £300 and £400. The effort was soon given up, however, as the Indian constitution was found incompatible with those habits which are requisite for literary attainments. Even Caleb Cheeshahteaumuck, as this solitary Indian graduate was euphoniously called, soon died of consumption. The building erected for the special accommodation of the natives was, therefore, appropriated to other purposes, and for some time was used as a printing office, which gained great renown in its day.

About one half of the graduates under President Chauncy became ministers of the gospel, and several others held posts of distinction in civil life. Two were Chief Justices of the Colony; one was afterwards Chief Justice of the colony of New York, and successively Governor of Massachusetts and of New Hampshire; and three became presidents of colleges, viz: two of Harvard, and one of Yale.

The donations to the college, at this period, were numerous and interesting;* indicating, in various ways, the state of the colony in respect to its resources, the affectionate regard of the community, and the liberality of many persons in England, as well as here, toward this school in the wilderness. Two of the most considerable, which have remained available to the present day, are the bequest of Edward Hopkins, of £500,† and the annuity of William Pennoyer, which, at the time, was £34 per annum, and is now about £50. Both of these were for the benefit of the indigent; the former to be used for educating boys at the grammar school of the town of Cambridge, as well as young men at the college, and the latter for this purpose only.

* See APPENDIX—Donations, 1654 to 1672.

† See Barnard's "*American Journal of Education*," Vol. IV., 669.

During the latter part of President Chauncy's administration, both the College and the Colony were involved in pecuniary embarrassments. The buildings of the seminary were "ruinous and almost irreparable," and "the number of scholars short of what they had been in former days." All its efficient funds did not amount to one thousand pounds, and without a new building its situation was desperate. The General Court could, or would do nothing. In this emergency, the town of Portsmouth, in New Hampshire, in an address to the General Court in 1669, after expressing their thankfulness for the protection extended to them by Massachusetts, and saying, "that, although they had articled with them for exemption from taxes, yet they had never articled with God and their own consciences for exemption from gratitude," which "while they were studying how to demonstrate, the loud groans of the sinking college came to their ears; and hoping that their example might provoke the rest of the country to an holy emulation in so good a work, and the General Court itself vigorously to act, for the diverting the omen of calamity, which its destruction would be to New England," declare, that a voluntary collection had been made among their inhabitants, which authorized the town to pledge the payment of "sixty pounds sterling a year for seven years ensuing; to be improved by the Overseers of the College for the advancement of good literature there."

This noble example was not lost on Massachusetts. Efficient measures were immediately adopted for raising subscriptions in the Colony, and an agent was despatched to England to solicit aid from its friends there, with letters and an urgent address to them from the overseers. These exertions produced, in the course of the ensuing year, subscriptions for more than two thousand six hundred pounds. Under this encouragement, in 1672, authority was given for the commencement of a new edifice. Subscriptions, however, were more easily made, than collected. Great delays and delinquencies occurred. The General Court were compelled to interfere; and, after efforts for five or six years, first by urging, then by threatening, and at last, by actually authorizing the delinquent subscriptions to be collected by distress, they finally succeeded in completing the erection of a new college, in 1682, ten years after it had been commenced.

1672—1684.

President Chauncy was succeeded in office by Leonard Hoar, who belonged to the medical as well as to the clerical profession. He was educated at Harvard, but returned to England to become minister at Wanstead, in Essex. He was inducted into the presidency in July,

1672, and resigned in March, 1675, after a troubled administration—both with the corporation and the students—the latter, according to Cotton Mather, used to "turn cudweeds and travestic whatever he did and said, with a design to make him odious," a design in which they succeeded much to the discredit of the Puritan youths. The General Court became early mixed up "in the motions and debates," and a second year had not passed, before the General Court summoned into their presence the corporation, overseers, president, and students; and, after a full hearing, notwithstanding that Dr. Hoar, in consideration of the poverty of the students, voluntarily relinquished fifty pounds of his annual salary, the Court passed this most extraordinary vote; "That, if the college be found in the same languishing condition at the next session, the president is concluded to be dismissed without further hearing." After this decisive encouragement to malcontents, it was not difficult to anticipate the result. The college continued to languish, and Dr. Hoar resigned his office in the March ensuing.

The Rev. Urian Oakes, the minister of Cambridge, was his successor, as president *pro tempore*, retaining his position as pastor of the church. He, too, was born in England, but, coming over in childhood, he was educated at Harvard College, and then went to England, where he was regularly settled; and, having returned to this country, with so many others of the non-conformists, he became, in the first place, minister of Cambridge, and then president of the college. He officiated, for five years, as a merely temporary occupant of the chair, and was not formally installed till February, 1680. He is believed to have countenanced those who expressed their dissatisfaction with his predecessor; and he certainly resigned his seat in the Corporation within a year after Hoar's appointment. The most reasonable, as well as the most charitable, construction of his conduct is, that the complaints against the late president were not without some just foundation; for Oakes has left behind him the reputation of having been "a man of bright parts, extensive learning, and exalted piety"—a reputation clearly inconsistent with any factious conduct, or personal jealousy. He died in July, 1681, and was succeeded by his classmate, John Rogers, a graduate of 1649.

This gentleman was the son of the Rev. Nathaniel Rogers, of Ipswich; and had applied himself first to the study of theology, and afterwards to that of medicine. He continued in office for two years only, highly esteemed for his abilities and acquisitions, and greatly loved for the amiableness of his temper. He was the first layman who held the office of president of the college.

(To be continued.)

GRANTS AND DONATIONS

TO

HARVARD COLLEGE.

TABLE I.

GRANTS BY THE LEGISLATURE OF MASSACHUSETTS TO HARVARD COLLEGE, FROM ITS FOUNDATION TO THE PRESENT TIME. FROM THE STATE RECORDS.

Date.		£ Sterling.			£ Lawful.		
1636	Toward a school or College,	400	0	0			
1639	Cambridge and Watertown rates, £30 12s. and £20,	50	12	0			
1640	Ferry between Boston and Charlestown,						
1646	To President Dunster, to be paid in grain or rates,	100	0	0			
1650	The Charter exempted the College from taxation on real property to the value of £500 sterling per an.						
1658	Two thousand acres of land.*						
1654	£100 per annum, for seven years,				700	0	0
1657	Five hundred acres of land granted to President.						
1666	To the President,				20	0	0
1672	£150 per annum to the President for three years,				450	0	0
1675	£100 per annum to the President for seven years,				700	0	0
1682	£100 per annum to the President for ten years,				1000	0	0
	"Merriconeag in Casco Bay, with 1000 acres adjacent," granted to President and Fellows.†						
1692	To the President,				100	0	0
1694	Do.				150	0	0
1695	Do. £50 per annum for six years,				300	0	0
1707	Do. £60 " " " " "				360	0	0
1708	Do. £150 " " " three "				450	0	0
1709	Do. for repairing his house,				12	1	2
1711	Do.				180	0	0
1712	Do.				180	0	0
1713	Do. £190 at 29½ per cent. discount from sterling,	133	19	0			
1715	Do. 190 at 33½ " " "	126	13	4			
1716	Do. 190 at 40 " " "	114	0	0			
1717	Do. 180 at 40 " " "	108	0	0			
1718	Do. 180 at 45 " " "	99	0	0			
	For erecting Massachusetts Hall £1500 at 45 per cent. discount from sterling,	825	0	0			
1719	To the President £180 at 50 per cent. discount from sterling,	90	0	0			
	For the new building, £2000 at 50 per cent. discount from sterling,	1000	0	0			
	Two hundred and fifty acres of land in the town of Lunenburg, sold for £120 at 50 per cent.,	60	0	0			
1720	To the President, £400 at 50 per cent. discount,	200	0	0			
1722	To the President, £150 at 57 " "	64	10	0			
1723	To the President, £150 at 60 " "	60	0	0			
1725	To the President, £220 at 64 " "	79	4	0			
1726	To the President, £360 at 64 " "	129	12	0			
	For President's House, £1000 at 64 per cent. discount,	360	0	0			
1727	To the President, £360 per annum for eight years is £2880, at 64 per cent. discount,	1036	16	0			
1735	To Prof. Wigglesworth, £50 at 78 per cent. discount,	11	0	0			
1736	To the President, £120 at 76 per cent. discount,	28	16	0			
	To Prof. Wigglesworth, £16 13s. 4d. at 76 pr ct. disc.,	4	0	0			
1737	To the President, £200 at 76 per cent. discount,	48	0	0			
1738	To the President, £300 at 79 per cent. discount,	63	0	0			
	Amount carried forward,	5192	02	4	4602	1	2

* Never obtained. † This grant was defeated by adverse claims

Date.		£ Sterling.			£ Lawful.		
	Amount brought forward,	5192	02	4	4602	1	2
	To Prof. Wigglesworth, £16 13*s.* 4*d.* at 79 per ct. disc.,	3	10	0			
1741	To the President, £150 at 79 per cent. discount,	31	10	0			
	To Prof. Wigglesworth, £30 at 79 per cent. disc.,	6	6	0			
1743	To the President, £200 at 79 per cent. discount,	42	0	0			
	To Prof. Wigglesworth, £25 at 79 per cent. discount,	5	5	0			
1746	To the President, £240 at 83 per cent. discount,	40	16	0			
	To Prof. Wigglesworth, £25 at 83 per cent. discount,	4	5	0			
1747	To the President, £300 at 84 per cent. discount,	48	0	0			
	To Prof. Wigglesworth, £75 at 84 per cent. discount,	12	0	0			
1748	To the President, £350 at 85 per cent. discount,	52	10	0			
	To Prof. Wigglesworth, £125 at 85 per cent. discount,	18	15	0			
1750	To the President, £336 13*s.* 4*d.* at 90 " "	33	13	4			
	To Prof. Wigglesworth, £200 at 90 " "	20	0	0			
	To Prof. Winthrop, £50 at 90 per cent. discount,	5	0	0			
1752	To the President, £250 at 90 per cent. discount,	25	0	0			
1753	To Prof. Wigglesworth, £100 at 90 per cent. discount,	10	0	0			
	To Prof. Winthrop, £60 at 90 per cent. discount,	6	0	0			
	To the President,				*480	0	0
	To Prof. Wigglesworth,				190	0	0
	To Prof. Winthrop,				150	0	0
	To Rabbi Judah Monis, instructor in Hebrew,				20	0	0
1755	To the President, £250 per annum, for six years,				200	0	0
	To Prof. Wigglesworth,				200	0	0
	To Prof. Winthrop,				1500	0	0
	To R. Monis,				40	0	0
1757	To Prof. Wigglesworth, £100 for four years,				400	0	0
	To Prof. Winthrop, £90 per annum, for four years,				360	0	0
	To R. Monis,				18	0	0
1758	To R. Monis,				20	0	0
1760	To R. Monis,				20	0	0
1761	To the President,				230	0	0
	To Prof. Wigglesworth,				90	0	0
	To Prof. Winthrop,				80	0	0
1762	To the President,				250	0	0
	To Prof. Wigglesworth,				100	0	0
	To Prof. Winthrop,				90	0	0
	Toward erection of a new building (Hollis Hall,)				2000	0	0
	For materials for the same,				500	0	0
	One sixty-fourth part of twelve townships in Maine,						
1763	To the President,				250	0	0
	To Prof. Wigglesworth,				100	0	0
	To Prof. Winthrop,				90	0	0
	To Prof. Sewall,				30	0	0
	Toward new building,				1783	0	0
	For defraying arrearages on the same,				530	7	2
1764	To the President,				250	0	0
	To Prof. Wigglesworth,				100	0	0
	To Prof. Winthrop,				100	0	0
	To Prof. Sewall,				40	0	0
	To Andrew Eliot, butler,				75	10	6
	For a "water engine,"				100	0	0
	To students for losses by the burning of Harvard Hall,				116	17	2
	To others belonging to the College, sufferers by fire,				267	4	0
	Toward rebuilding Harvard Hall,				2000	0	0
1765	To the President,				250	0	0
	To Prof. Wigglesworth,				100	0	0
	To Prof. Winthrop,				100	0	0
	To Prof. Sewall,				40	0	0
	Toward rebuilding Harvard Hall,				1000	0	0
1766	To the President,				200	0	0
	To Prof. Wigglesworth,				50	0	0
	To Prof. Winthrop,				100	0	0
	For rebuilding Harvard Hall,				1112	18	7½
1767	To the President, £200 per annum, for seven years,				1400	0	0
	Amount carried forward,	5556	12	8	21,725	18	7½

* At this period, the currency was changing from paper to specie; and although it may not have been completed by this year, yet, as there are no means of ascertaining the exact difference, the nominal amount is allowed.

Date.		£ Sterling.			£ Lawful.		
	Amount brought forward,	5556	12	8	21,735	18	7½
	To Prof. Wigglesworth, £100 per annum, for nine years, excepting the year 1772, when £80 only were allowed him,				880	0	0
	To Prof. Winthrop, £100 per annum, for nine years,				900	0	0
1768	To Prof. Sewall,				20	0	0
1769	To Prof. Sewall,				30	0	0
1770	To Prof. Sewall, £40 per annum, for six years,				240	0	0
1771	Four eighty-fourth parts of towns in Maine,						
	Three sixty-fourth parts of other towns in Maine,						
1775	To the President,				200	0	0
1777	To the President, £242 4*s.* 5*d.* which, at the average rate of depreciation for that year,* was worth about				100	0	0
	To Prof. Wigglesworth, £189 17*s.* 8*d.* worth about				86	0	0
	To Prof. Winthrop, £180, worth about				81	16	0
	To Prof. Sewall, £100, worth about				45	9	0
1778	To the President, £400, which in that year was worth about				67	0	0
	To Prof. Wigglesworth, £200, worth about				34	0	0
	To Prof. Winthrop, £180, worth about				30	0	0
	To Prof. Sewall, £100, worth about				17	0	0
1779	To the President, £1000, of which the average value in that year was about				67	0	0
	To Prof. Wigglesworth, £500, worth about				34	0	0
	To Prof. Sewall, £290, worth about				19	6	4
	To Prof. Winthrop, £500, worth about				34	0	0
1780	To the President, £7497 10*s.* which, at 40 for one, is				187	6	3
	To Prof. Wigglesworth, £3500, which, at forty for one, is worth				87	10	0
	To Prof. Winthrop, £800, which, at forty for one, is worth				20	0	0
	To Prof. Sewall, £2080, which, at forty for one, is worth				52	0	0
1781	To Prof. Williams, (in specie,)				175	0	0
	To Prof. Wigglesworth, (in specie,)				150	0	0
	To Prof. Sewall, (in specie,)				47	19	0
1783	To the President,				261	13	4
	To the Professors, £105 each,				315	0	0
1784	To the President,				232	10	0
	To Prof. Wigglesworth,				233	7	8
1786	To the President,				483	6	8
	To Prof. Wigglesworth, and Prof. Pearson, £241 13*s.* 4*d.* each,				483	6	8
		5556	12	8	27,340	9	6½
	These sums are respectively equal to	$24,696.14			$91,101.59		
	Amounting to				$115,797.73½		
1814	Ten sixteenths of bank tax, $10,000 a year for ten years,				$100,000.00		
	Total,				$215,797.73½		

Besides the above grants of money and lands, a lottery was authorized, in 1765, to raise £3,200 "for the new building," probably Harvard Hall.

In 1785 £200 per annum were ordered to be paid by Charles River Bridge Corporation, as a compensation for the ferry which had been granted to the College in 1640. In 1792, the same sum was taxed upon West Boston Bridge Corporation. In 1794, a lottery was granted to raise £800 for a new building, and in 1806 another to raise $30,000 for a similar purpose. In 1809, a township of land in Maine was given to the Massachusetts Agricultural Society for the Professorship of Natural History.

* See Felt's History of Massachusetts Currency, pp. 186 and 196.

TABLE II.

DONATIONS, CONSISTING PRINCIPALLY OF SUMS OF MONEY, AND ARTICLES ESTIMATED IN MONEY, GIVEN BY INDIVIDUALS TO HARVARD COLLEGE.

Date.		£ Sterling.	Mass. Currency.
1638	Rev. JOHN HARVARD,*	779	17 2
1639	Mr. Joseph Glover gave a "font of printing letters."†		
1642	The Honorable Magistrates and Reverend Elders books valued at	200	0 0
	Mr. Henry Pool,	10	0 0
	Mr. Theophilus Eaton,	40	0 0
	Mr. Richard Russell,	9	0 0
	Mr. Edward Jackson,	10	0 0
	Mr. Wory,	4	0 0
	Mr. Parish, merchant,	3	0 0
	Some gentlemen of Amsterdam gave £49, "*and something more*," toward furnishing a printing-press with letters,	49	0 0
	Mr. William Hibbons, Mr. Thomas Welles, Mr. Hugh Peters, } Procured from divers gentlemen and merchants in England, for books for the library,	150	0 0
	Mr. Holbrook, schoolmaster at Essex, England,	22	0 0
	A person in England, unknown,	2	10 0
	Rev. Mr. Greenhill, minister of God's word at Stepney,	7	0 0
	Mr. George Glover,	2	0 0
	Mrs. Glover,	10	0 0
	Mr. Bridges, Mr. Greenhill, Mr. Glover, } Utensils to the value of	20	0 0
	A gentleman not willing his name should be known,	50	0 0
	Mr. Willis, merchant, of Boston,	7	0 0
	Captain Welles, of Roxbury,	10	0 0
	Mr. Israel Stoughton, of Dorchester,	5	0 0
	Mr. Richard Parker, of Boston, woollen draper,	4	0 0
	Mr. John Pratt, of Hartford,	4	0 0
	His Majesty's Colonies in eight years gave as follows, viz.:—Massachusetts,	191	3 4½
	Hartford,	39	1 0
	New Haven,	35	1 3
	Plymouth, (town of,)	4	13 0
1643	Lady Moulson,	‡100	0 0
	Mr. Bridges,	‡50	0 0
	Sundry other persons unknown,	‡12	16 4
1644	Mr. Richard Harris, a great silver salt, valued, in 2654, at £5 1*s.* 3*d.* at 5*s.* per ounce, and a small trencher salt, valued, in 1654, at 10*s.*,	5	11 3
	Mr. Thomas Langham, a silver beer bowl, valued at	3	3 10
	Mr. Venn, fellow commoner, one fruit dish, one silver sugar spoon, and one silver tipt jug.		
	Extract from the Colony Records, 1644.—"Upon advice from the Commissioners of the United Colonies for general care to be taken for the encouragement of learning and entrance of poor schollers in ye College at Cambridge, it is ordered		
	Amount carried forward,	1839	17 2½

* A question is raised by President Quincy whether this bequest amounted to more than the half of this sum, the phraseology being that he gave "the moiety of his estate." But the earliest records imply that the moiety amounted to the sum above named; and the testimony of the Rev. Thomas Shepard, his cotemporary, and the minister of Cambridge, is positive to the fact that the property of Harvard amounted to £1600. He also gave 320 volumes of books.

† The font of types was perhaps bequeathed to the College by Mr. Glover, who was a printer, and who died on the passage to this country. His widow afterward became the wife of President Dunster.

‡ These three sums, amounting to £162 16*s.* 4*d.*, were paid into the "country treasury," where they remained till 1713, when they were repaid with interest at six per cent. per annum from 1685, £15 per annum having been allowed from 1643 to 1685.

Date.		£ Sterling.			Mass. Currency.		
	Amount brought forward, ...	1839	17	2½			
	that the deputies shall commend it to the several townes (and the elders are desired to give their furtherance hereto with declaration of the cause which was propounded by the said Commissioners, and hath been put in practice already by some of the other Colonies, viz., of every family allowing one peck of corn, or 12*d.* in money or other commodity, to be sent to the treasurer for the College at Cambridge, or where else he shall appoint in Boston or Charlestown."						
	From a letter of Dunster's to the Commissioners, in 1647, it appears that this contribution amounted to about £50 per annum. Quincy's History, p. 15—17, vol. I.						
1650	John Newgate (or Newdigate) of Boston, gave by his will an annuity* of £5, being 5 per cent. interest on				100	0	0
1653	John Glover, an annuity† of £5, ...				100	0	0
1654	Sundry gentlemen, and the town of Charlestown, toward the repairs of the College, ...				251	15	6
1655	Sir Kenelm Digby gave books to the value of . .	60	0	0			
1656	Mr. Samuel Parris (sometimes spelt Parish) a silver tankard, valued in inventory of College plate, Nov. 18, 1674, ...				7	10	0
1657	Edward Hopkins, Governor of Hartford Colony, gave in "corn and meate," according to Treasurer Danforth's account, ...				100	0	0
	[The facilities of conveyance may be judged of by the charge of *£7s. 6d.* for transport to Cambridge. By his will, which was proved in 1657, he gave £500 to trustees for the purpose of "breeding up hopeful youth in a way of learning both at the Grammar School and College for the public service of the country in future times."						
	This bequest was not paid till 1718, and then by a decree of the Lord Chancellor it was put in trust for the benefit of the College and Grammar School at Cambridge, where it has remained ever since, though not with the entire acquiescence of the friends of Yale College, some of whom have urged that it was probable Governor Hopkins intended this legacy for the benefit of that institution. The date of the establishment of Yale College does not favor this idea.]				500	0	0
	Captain Richard Sprague, of Charlestown, by his last will and testament gave to the College thirty ewe sheep, with their lambs, valued at £30.						
	[In College Book No. 1, p. 44, is the following receipt:—"Rec'd of [by] me, John Richards, treasurer of Harvard College in Cambridge, of Thos. Danforth, late treasurer of the said society, six fat cattle, and two oxen, valued at £35 in current country pay, and is in lieu of the sheep he the said Thos. Danforth rec'd for the legacy of Capt. R. Sprague to the said College. Sept. 7, 1669.]				35	0	0
1658	Sir Richard Daniel, Knight, gave many books to the library.						
	Mr. William Colburn, of Boston, gave in money, .				5	0	0
	Mr. John Freik gave books to the value of . . .				10	0	0
	Mr. Latham, minister of Bury, in the County of Lancaster, ...	5	0	0			
	Mr. William Paine, merchant, gave, to be laid out in lands, ...				20	0	0
	Amount carried forward, ...	1904	17	2½	1129	5	6

*This annuity was sold in 1844 for $333.33.

†This annuity continues to be paid, and is a charge on a building in Dock Square.

Date.		£ Sterling.			Mass. Currency.		
	Amount brought forward,	1904	17	2¼	1129	5	6
1638	Mr. Jn. Paine,* merchant, of Boston, gave,				10	0	0
	Mr. Stranguish, of London,† gave	10	0	0			
	The inhabitants of a certain place (supposed to be Eleutheria, Bahama Islands) out of their poverty gave	134	0	0			
	Mr. Edward Tyng,				9	10	0
	Mr. John Ward, of Ipswich, by his will gave the remainder of his estate to the College; whereof received in *horses*, valued at £72. [Treasurer Danforth credits in his account, "By pt. [payment] of Mr. Ward's legacy £94," and charges for a "loss *in a colt*, had in payment of said legacy, £7. 10," showing the amount realized.]				86	10	0
	Mr. John Willet gave the bell now‡ hanging in the turret.						
	Mr. John Winthrop gave books to the value of				20	0	0
1659	John Dodderidge, Esq., of Fremington, in the county of Devon, gave an annuity of £10 "toward the maintenance of poor scholars," *forever*. [It was paid for *twenty-four years*, but never since, notwithstanding many attempts to recover it.]	240	0	0			
	Robert Keyne,§ of Boston, merchant, gave to the College a legacy of £100, and the half of a house which was valued at £147*s.* 10*d.*, and was afterward sold for £150,				250	0	0
	Richard Saltonstall, Esq., being in England, sent over goods which cost there,	100	0	0			
	and money‖ to the amount of	220	0	0			
1660	Mr. Henry Webb bequeathed a dwelling house¶ in Boston,				50	0	0
	Rev. Ezekiel Rogers, of Rowley, bequeathed a part of his library, and the reversion of his house and lands.**						
1664	Thomas Pierce, senior, of Charlestown, left a legacy of				1	0	0
	Capt. Penelton gave, in lumber,				5	0	0
	Mr. Rowse, of Charlestown, saddler, a legacy,				2	10	0
	Mr. Francis Willoughby,				16	0	0
	Mr. Wilson, of Boston, merchant, gave a pewter flagon,					10	0
	Amount carried forward,	2598	17	2¼	1580	05	6

* These gifts of Jn. and William Paine were laid out for the purchase of land lying north of the old meeting-house, as far as Harvard Hall, being the lot bought of John Betts, in 1661.

† The donations from England are put down as having been in the currency of England, whether it be so stated, or not, in the College books. Sums may have been translated in the College records into lawful money, as it was called; but if this were the case, the result would not often be stated in a precise number of pounds, like the above gift.

‡ By the word *now* must be here meant a date not later than 1668, as the record of the donation, in College Book No. 3, is in Treasurer Danforth's handwriting.

§ Robert Keyne must have been a man not merely of substance, as appears by so considerable a legacy to the College, and of distinction for courage and conduct, as appears by his having been the first Captain of the Artillery Company, but of excellent sense and discretion, and a modest appreciation of himself worthy of being always had in remembrance, as appears by the following sentences in his will with regard to the disposition of his legacy: "—— my desire is that it shall be improved, (not about the buildings or repairs of the College, *for that I think the country should do and look after*,) but for the use and help of such poor and hopeful scholars," &c. And again: "Therefore because I have but little insight in the true ordering of scholars and other things thereto belonging in a College way, and so possibly may dispose of my gift where there is less need, and that it might do more good if it was disposed of in some other way, *I am willing to refer it to the President, Trustees and Overseers*, that are entrusted with the care and ordering of the College, and scholars or students, with the things thereto belonging." The approbation of posterity should be bestowed on such wise self-renunciation, as an offset for the rebukes which Capt. Keyne endured from the church, and the penalties he paid to the Court, in his own day, for making too much profit on his merchandise.

‖ The currency in which this money was paid cannot be ascertained. It is supposed to be sterling, from its having been sent from England. It has also been supposed—see Peirce and Quincy—that this was in payment of his father's legacy to the College.

¶ The house stood on the ground now occupied by the bookstore of Messrs. Little & Brown, and the estate still belongs to the College.

** The College came into possession in 1711. The lands in Rowley were sold, and a farm in Waltham, called the "Rogers Farm," was purchased, and this again was sold, in 1835, for $5000.

Date.		£ Sterling.			Mass. Currency.		
	Amount brought forward,	2598	17	2½	1580	05	6
	Bridget Wynds, of Charlestown, a legacy of				4	0	0
1669	Several persons of Portsmouth, N. H., engaged to give sixty pounds per annum for seven years, (of this amount Mr. Richard Cutts gave £20 per annum,) and the town, in 1673, voted that what remained unpaid of this sum should be levied on the inhabitants,				420	0	0
	Henry Henley, Esq., of Lyme, Dorsetshire,	27	0	0			
	A gentleman in England, by Peter Sargent,	27	0	0			
1670	Another gentleman in England, by the same,	20	0	0			
	William Pennoyer, an annuity,* from the rents of an estate in Norfolk, England, for the benefit of "two fellows and two scholars," valued at	680	0	0			
1671	James Penn, elder of the First Church in Boston, bequeathed an annuity, to be paid out of the rents of his farm at Pulling Point, to the elders and deacons of the First Church, "for the maintenance of some poor scholar or scholars at the College,"†				10	0	0
1672	Mr. Henry Ashurst, (the same, probably, who was afterward Sir Henry, agent of the Colony,)	100	0	0			
	A contribution was made this year in forty-four towns, for the erection of a new building for the College; and with the exception of four, viz.: Dover and Exeter, N. H., and Kittery and Scarborough, in Maine, they were all within the present limits of this Commonwealth; the most northerly being Newbury, the most southerly, Weymouth; and Concord being the most westerly, except those on or near the Connecticut River, viz: Northampton, Hadley, Hatfield, Springfield, and Westfield. Boston gave £800, and the whole amounted to				2277	6	2
	Sir George Downing, a graduate of the first class, gave, toward the same object,	5	0	0			
1674	A gentleman in England, by Peter Sargent,	24	0	0			
1675	Dr. John Lightfoot, of England, bequeathed his whole library, comprising many volumes of Oriental literature.						
1676	Judith Finch left a legacy of £1 in corn, from which the College realized,				14	6	
1678	Theophilus Gale, D. D., bequeathed his library, which was more than equal to all that was in the College library before.						
1679	Joseph Brown, bequeathed,				100	0	0
	and in books,‡				50	0	0
	John Smeadley, of Concord,				10	0	0
1680	Henry Clark, of Hadley,				50	0	0
	Richard Russell bequeathed £100—of which was received in provisions only				31	13	4
	David Wilton,	10	0	0			
1681	Sir Matthew Holworthy bequeathed "to be disposed of by the directors as they shall judge best for the promotion of learning and promulgation of the Gospel."	1000	0	0			
	Capt. John Hull,				100		
	Capt. Samuel Scarlett bequeathed an annuity of £7, but nothing more was ever realized than				10	0	0
1682	Sir John Maynard, "his majesty's sergeant at law," eight chests of books, valued at	400	0	0			
1683	Mr. Henry Ashworth, bequeathed,	100	0	0			
	Mr. Joseph Brown, Mr. Edward Page, Mr. Francis Wainwright, fellow commoners, gave each a silver goblet.§						
	Amount carried forward,	4991	17	2½	4643	19	6

* This annuity continues to be paid, and yields about £50 per annum.
† This legacy continues available to the present day.
‡ This legacy, it is said in the records, was probably never received.
§ Mr. Wainwright graduated in 1686. The other two do not appear to have received a degree.

Date.		£ Sterling.			Mass. Currency.		
	Amount brought forward,	4991	17	2¼	4643	19	6
1683	Deacon William Trusedale bequeathed £40—"and still remains due to the College," says the record. Rev. Thomas Shepard gave a silver goblet.						
1687	William Brown, senior, bequeathed				100	0	0
1690	Robert Thorner, of Baddesley, in the county of Southampton, bequeathed*	500	0	0			
1693	Rev. Edmund Brown, of Sudbury, bequeathed £100, which the College never obtained, notwithstanding the executor was sued for it.						
1694	Madam Mary Anderson gave				5	0	0
1695	Nathaniel Hulton, senior, citizen and salter of London,	100	0	0			
1696	Thomas Gunston, of Stock-Newington,	50	0	0			
1697	Hon. Robert Boyle gave £45 per annum "for the salaries of two ministers to teach the natives in the Christian Religion." [No payment of this annuity was made till 1710 when, in compensation for the delay, it was agreed that double the amount should be paid for six years, and after that, £45 were regularly paid till 1785. This makes its duration equivalent to a period of 81 years, and the sum received, in all, £3645.]	3645	0	0			
1698	Mr. Eliakim Hutchinson gave £10, declaring his purpose to give £10 per annum as long as the government should be such as he approved. [He continued the benefaction till his death in 1717, when the whole amount received was]				200	0	0
1699	Hon. William Stoughton erected a building, called Stoughton Hall [the first of that name] at the cost of				1000	0	0
	In 1700, probably, the same gentleman gave a large silver bowl, 48½ oz., and a goblet, 21 oz.,	15	12	9			
1705	Capt. Richard Sprague, late of Charlestown,				400	0	0
1708	Benjamin Brown, of Salem, bequeathed for indigent students,				200	0	0
1713	Thomas Brattle, Esq., for a mathematical instructor or professor,†				200	0	0
1714	Thomas Richards, £30, at 33⅓ per cent. discount, is equal to	20	0	0			
1716	Rev. Daniel Williams, an annuity‡ of £60 for the support of two preachers among the "Indians and Blacks," representing a capital	1000	0	0			
	William Brown, of Salem, for indigent students, £100, at 40 per cent. discount from sterling money, or 15 per cent. from the standard of the Province,	60	0	0			
	General Nicholson gave a number of books.						
1717	Rev. William Brattle, of Cambridge, £250, at 40 per cent. discount,	150	0	0			
1718	Madam Hutchinson, widow of Eliakim H., £10, at 50 per cent. discount,	5	0	0			
1719	John Walley, Esq., £100, at 50 per cent. discount,	50	0	0			
	THOMAS HOLLIS. [This first donation from this distinguished benefactor was received this year,						
	Amount carried forward,	10587	9	11¼	6748	19	6

*This legacy was given while President Mather was in England, but in consequence of certain provisions in the will, the last payment was not made till 1781. In that year Treasurer Storer acknowledges the receipt of £200 in full of this legacy.

† At this period began the depreciation of the currency of the Province, in consequence of the issue of bills of credit by the government. Specie disappeared, and the bills increased in number, and diminished in value, till after 1750, when a large sum in silver was received from England, to reimburse the expenses of the Colony in the French war, and formed a sufficient basis of circulation till the war of the Revolution. The rate of depreciation is adopted generally on the authority of Mr. Felt, though memoranda in the College records, and some private sources of information have been consulted, and occasionally followed. Probably prices in the money market were not so definite as they would have been in a larger and more wealthy community, and the rates here given must be considered as generally, rather than universally, correct.

‡ This annuity has long since ceased to be paid; but the unexpended balances have laid the foundation of a fund which now amounts to $15,000, and upward, the income of which is still devoted to the original purpose.

Date.		£ Sterling.			Mass. Currency.		
	Amount brought forward, ...	10587	9	11¼	6748	19	6
1719	and was followed, as will be seen, by many generous gifts in subsequent years. The present list of them has been made out, with much care, from original documents,—many of them in Hollis's own hand, and others being accounts by the College treasurers of the funds received from him.] This year, in Massachusetts currency, £296. 16. 1½, which at 50 per cent. discount, is equal to	148	8	0¾			
1720	Hon. Samuel Brown, of Salem, £150, equal to .	75	0	0			
	Hollis gave, this year, a large number of books, and in money £665. 5. 6. or	332	12	9			
1721	And the next year £1784. 13., equal, at 54 per cent. discount, to	820	19	0			
1722	Hollis gave many valuable books, a portrait of himself, and money to the amount £332. 10. currency, which, at 57 per cent. discount, is equal to	143	4	3¾			
1723	Capt. Ephraim Flynt, of Concord, £100 at 60 per cent. discount, ...	40	0	0			
	Samuel Gerrish, books valued at £10 currency, or	4	0	0			
	Henry Gibbs, of Watertown, £100, equal to . .	40	0	0			
	Madam Mary Saltonstall, wife of Gov. Saltonstall, gave £100 currency, or	40	0	0			
	Hollis gave many books for the library, and in money £580, which, at 60 per cent. discount, is	232	0	0			
1724	Thomas Danforth, Esq., of Cambridge, £100, at 64¾ per cent. discount, ...	35	6	8			
	John Frizzle, Esq., bequeathed, £150, equal to .	53	0	0			
	Hollis presented books to the value of, . . .	100	0	0			
	and procured more from the following persons, viz.:						
	John Hollis, his brother, to the value of . . .	64	0	0			
	Thomas Hollis, his nephew,						
	Dr. Isaac Watts,						
	Rev. Joseph Hussey, and probably from						
	Mr. Harris, of London.*						
1725	Mrs. Anne Mills bequeathed £50, disc't. 64¾ pr. cent.,	17	13	4			
	Hon. Gurdon Saltonstall, Governor of Connecticut, bequeathed £100, which, at the same discount, is	35	6	8			
	Hollis gave three valuable cases of books, (cost not stated,) and procured a large number, also, from the following persons:						
	Rev. Dr. Guise, of Hertford,						
	Mr. Ducane, of London, 5 guineas toward purchase of Mr. Boyle's sermons, ...	5	5	0			
	Edward Leeds, of Hackney,						
	William Woolley, of Clapton, Hackney, and probably						
	John Lloyd, of London.						
1726	Hollis sent to the College, besides another large number of books, money to the amount of £1,170 currency, which, at 66⅔ per cent. disc't., is	390	0	0			
	This was for his professorship of Mathematics. He also procured a present of Greek and Hebrew types from a friend of his, which cost £117 of our currency, or in London, ...	39	0	0			
	And he induced the two following gentlemen to send a donation of books to the library, viz.:						
	Dr. Richard Mead, and						
	Mr. John Reynolds, timber merchant, London.						
1727	Rev. Thomas Cotton, of London, £100 for President's salary, ...	33	6	8			
	And £100 for books, at 66⅔ per cent. discount, .	33	6	8			
	Hollis gave an apparatus for experimental philosophy, which cost in England, ...	126	10	0			
	And presented many valuable books given by himself and his friends.						
	Amount carried forward, ...	13396	9	0¾	6748	19	6

* The value of the above four gifts is not stated.

Date.		£ Sterling.			Mass. Currency.		
	Amount brought forward, ...	13396	9	0½	6748	19	6
1729	John and William Vassal gave each a silver tankard, weighing about 20 ounces, worth probably about	10	10	0			
1730	Madam Mary Saltonstall, bequeathed £1000, average discount 70 per cent., ...	300	0	0			
1731	Col. Samuel Brown, of Salem, left by his will £60 to the College, for the purchase of a piece of plate. Discount that year about 68 per cent., .	19	4	0			
	Mr. John Chester, of Connecticut, £50, equal to .	16	0	0			
1732	Mr. Nathaniel Hollis, brother to Thomas, . .	100	0	0			
	Mr. Thomas Hollis, son of Nathaniel, and heir to Thomas, who died in January of this year, .	200	0	0			
1733	Rev. Dean Berkeley procured for the College a valuable collection of Greek and Latin books.						
1734	Mr. Thomas Hollis, also presented a valuable collection of books, and the next year he gave another.						
1737	Hon. Thomas Fitch, of Boston, bequeathed £300, discount 77 per cent., ...	69	0	0			
	President Wadsworth, £110, at 77 per cent. disc., is	25	6	0			
	Rev. Dr. Guise, } presented some books, and Dr. Rev. Dr. Watts, } Watts gave all his own works, as they appeared.						
1738	John Ellery, of Hartford, £150, at 78 per cent. disc.	33	0	0			
	James Townsend, of Boston, £500, for the Hollis Professor of Divinity, ...	110	0	0			
1739	Hon. Thomas Hutchinson, £300, for the Hollis Professor of Divinity, ...	66	0	0			
	Mrs. Dorothy Saltonstall, of Boston, bequeathed £300 for indigent scholars, discount 78 per cent.	66	0	0			
1742	Daniel Henchman, Esq., presented 100 ounces of silver for the benefit of the Professor of Divinity,	22	10	0			
	Mrs. Holden, widow of Mr. Holden, of London,—merchant, and governor of the bank of England,—and her daughters, gave for the building of a chapel, ...	400	0	0			
1743	President Holyoke, £100, at 80 per cent. discount,	20	0	0			
1744	Hon. Colin Campbell, of the Island of Jamaica, gave a new transit instrument, and repaired the quadrant, at a *large expense*.						
	Hon. Andrew Oliver, presented a folio Bible for Holden Chapel.						
1747	Daniel Henchman, Esq., bequeathed, £250, at 85 per cent. discount, equal to*	37	10	0			
	Col. John Vassall gave a very valuable reflecting telescope.						
1748	The Society for the Propagation of the Gospel made a large donation of books, through the Bishop of Cloyne, by whose influence they were procured.						
1750	Mr. Francis Archibald, and						
	Mr. William Davis, of Boston, gave some anatomical preparations.						
	Hon. Judge Dudley bequeathed for an annual lecture £133. 6. 8., which, at 90 per cent. discount, is	13	6	8			
	Mr. Henry Sherburne, of Portsmouth, N. H., £100, at 90 per cent. discount, ...	10	0	0			
	Rev. Ebenezer Turell, of Medford, is supposed to have given the antique chair, called the President's chair; but at what period is not known. It is only a tradition that it was received during the presidency of Holyoke.						
	Admiral Warren gave a fine reflecting telescope.						
1752	William James, Esq., of Jamaica, medical books, to the value of†	25	0	0			
	Amount carried forward, ...	14939	15	8¾	6748	19	6

*This bequest, as well as the previous gift of 100 ounces of silver, was for the benefit of the Hollis Professor of Divinity, provided he was "in full communion with some Congregational or Presbyterian Church, and taught the principles of the Christian religion according to the well known confession of faith drawn up by the synod of the churches in New England." Otherwise the interest was to be given to some deserving indigent student.

†At this date, the process of a restoration of the currency to a specie basis was in progress;

Date.		£ Sterling.	Mass. Currency.
	Amount brought forward,	14939 15 8½	6748 19 6
1758	Daniel Henchman, the income to be divided between the two Hollis professors,		66 13 4
	Thomas Hollis, of Lincoln's Inn, grandson of Nathaniel Hollis, through his son Thomas, made his first donation of books to the library this year.*		
1760	Samuel Epes, Esq., of Ipswich, bequeathed, without any restriction, the sum of		300 0 0
	Henry Flynt, Esq., the worthy tutor of fifty-five years' standing, bequeathed £700, O. T., for the benefit of the tutors, and £112. 10., O. T., or 50 Spanish dollars, for the benefit of one or more needy scholars. These sums are equivalent, respectively, to	70 0 0	
	and	11 5 0	
1761	Hon. William Dummer, bequeathed, for the purchase of books,		66 13 4
	and for the benefit of the Hollis professors,		133 6 8
	Hon. Thomas Hancock, gave a fine reflecting telescope.		
1762	Stephen Sewall, A. B., for the professor of Hebrew, £100, O. T.,		13 6 8
	Samuel Dean, A. M., tutor,		
1763	Stephen Sewall, A. B., and Andrew Eliot, A. B., presented a clock for the Buttery,		4 0 0
1764	[A general subscription was made this year for the purpose of repairing the loss occasioned by the destruction of Harvard Hall by fire. The names of the donors, with the sums they contributed, are preserved in the College Records, but it will be sufficient to state here the sum received from the several towns or counties. They were as follows.]		
1764	Boston, £476 0 6		
	Charlestown, 25 13 0		
	Marblehead, 58 17 0		
	Salem, 98 6 9		
	Worcester County, 33 2 0		
	Cambridge, 65 13 6		
	Gloucester, 28 19 0		
	Newbury, 23 5 0		
	Barnstable County, 11 6 0		
	Other places, 57 15 0		
			878 16 9
	Thomas Hollis, of Lincoln's Inn,	200 0 0	
	And a case of books containing 56 vols. Books were also presented by the following persons, viz.:		
	Dr. Drummond, Archbishop of York		
	Benjamin Avery, LL. D.		
	Dr. Lardner,		
	Mr. Peter Livius, N. H.		
	Mr. Nathaniel Neal,		
	Rev. William Harris of Honiton, Devonshire,		
	Joseph Jennings,		
	Rev. Jonas Merriam,		
	Rev. John Usher, of Bristol, R. I.		
	The Society for Propagating the Gospel in Foreign Parts,	100 0 0	
	The Society for Propagating the Gospel in New England and the parts adjacent,	200 0 0	
	Amount carried forward,	15521 0 8½	8211 16 3

and the College found itself a loser by the foregoing extraordinary depreciation, to the extent of 75 per cent. of its property invested in bonds, and notes. The income of the foundations of the Hollis professorships was reduced from £80 per annum to £20. See copy of a memorial of the Corporation to the legislature in 1779, among the files in the safe at the library.

* It consisted of Milton's Works, 2 vols., and 44 vols. of tracts, all in quarto. This was the forerunner of many similar gifts.

Date.		£ Sterling.			Mass. Currency.		
	Amount brought forward,	15521	0	8½	8211	16	3
1765	Dr. Erskine, of Edinburgh and Dr. Fothergill, of London, presented valuable books.						
1765	Thomas Hollis, of Lincoln's Inn, nine cases of valuable books.						
	The General Assembly of New Hampshire, on the recommendation of Gov. Benning Wentworth, gave books to the value of				300	0	0
	Rev. Joseph Sewall,				20	0	0
	The Society for Propagating the Gospel in New England and the parts adjacent,	100	0	0			
	Rev. George Whitefield,	5	5	0			
	Hon. Thomas Hancock, for a professorship of Hebrew and other Oriental Languages,—the first professorship founded by a native of New England,	1000	0	0			
	Hon. John Alford,*				1362	8	5
1766	The Edinburgh Society for Promoting Religious Knowledge presented 25 volumes of books, and other cases to the value of	10	12	11			
	Books were also given by						
	The Rev. East Apthorp,						
	John Beaton,						
	Thomas Broomfield and Mrs. Grace Gardner,						
	Rev. John Erskine,						
	Thomas Hollis, of Lincoln's Inn, seven cases of valuable books.						
	Richard Jackson, of London, a number of valuable books.						
	Mr. Kincaid, the king's printer, at Edinburgh, a number of valuable books.						
	Edward Kitchen, of Salem, devised to the College,				133	6	8
	Samuel Quincy, of Boston, gave a carpet for the apparatus chamber, and books were presented by the following persons, namely:						
	John Langdon, of Boston,						
	Jasper Mauduit, of London,						
	Daniel Mildred, of do., in behalf of a "meeting for the sufferings of the Quakers,"						
	Capt. Jn. Miller, of Charlestown, to the value of				7	4	0
	Epes Sargent, to the value of				10	0	0
	Barlow Trecothick, Esq., Alderman of London,						
	The trustees of the British Museum.						
1767	Hon. John Hancock subscribed £500 sterling for the purchase of books for the library. The order sent to London, however, cost £54. 4. in addition, making his donation,	554	4	0			
	Dr. Lardner gave four volumes of his works, and many other persons contributed to the growth of the new library.						
	Dr. Haberden presented	3	3	0			
	Thomas Hollis gave fourteen boxes of books, and subscribed for Philosophical Apparatus,	200	0	0			
	Timothy Hollis,	20	0	0			
	Jasper Mauduit,	50	0	0			
	John South,	10	0	0			
	Messrs. Tappanden and Hanby,	10	10	0			
1768	Hon. James Bowdoin presented an Orrery which cost	86	5	0			
	Thomas Hollis, of Lincoln's Inn, seven more cases of books.						
	Lieut. Gov. Hutchinson, Samuel Savage, merchant, of London, Hon. Royall Tyler, and Rev. George Whitefield, each gave sundry books, and the latter gentleman "procured large benefactions for the College."						
	Amount carried forward,	17871	0	7½	10044	15	4

* This legacy was given to Harvard College by the executors of Mr. Alford's will, he having merely directed that a certain portion of his estate should be devoted to "pious and charitable purposes," leaving the selection of those purposes to his executors.

Date.		£ Sterling.			Mass. Currency		
	Amount brought forward,	17571	0	7½	10044	15	4
1769.	Thomas Hollis, of Lincoln's Inn, again presented three cases of books, and many volumes were given by a considerable number of persons, among others, some by Dr. Franklin.						
	President Holyoke, bequeathed				13	6	8
	Thomas Hubbard, the treasurer of the College from 1752 to 1773, gave, toward repairing the loss sustained by the burning of Harvard Hall,	100	0	0			
	Society for Propagating Christian Knowledge, in Scotland, gave, for the purchase of books for the library,	30	0	0			
	Dr. E. A. Holyoke, of Salem, gave a telescope of *twenty-eight feet.*						
1770	Thomas Hollis, of Lincoln's Inn, two large boxes of books.						
	Anthony Ferguson, for the purchase of books,	3	0	0			
	Books were also presented by several other persons this year.						
1771	Dr. Erskine, Dr. Franklin, and Gov. Pownal gave more books.						
1772	Nicholas Boylston, Esq., merchant, of Boston, bequeathed for the support of a Profess'r of Rhetoric,				1500	0	0
	Dr. N. Appleton, of Cambridge, for a scholarship,				30	0	0
	Hon. John Hancock presented a carpet for the Library, and one for the philosophy chamber, and paper for the walls of the latter. He added some books to his former donations.						
	Dr. Ezekiel Hersey, of Hingham, for a professorship of Anatomy and Physic,				1000	0	0
	Books were given by many individuals, and among others by						
	Thomas Palmer, Esq., who presented the Account of Herculaneum, in 20 vols., folio.						
	Samuel Sparrow, of London, merchant, gave a collection of books valued at	20	0	0			
	Thomas Wibird left, for the purchase of books, a legacy of	50	0	0			
1773	Dr. Cooper gave, for books, the sum of				8	0	0
	Several other persons presented a few volumes each.						
1774	Hon. John Hancock again gave some books, as did several other gentlemen.						
	Thomas Hollis, of Lincoln's Inn, who died in this year, bequeathed for a fund for the purchase of books, the sum of	500	0	0			
	Hon. Thomas Hubbard, the late treasur'r, bequeath'd And a part of his library.				300	0	0
	Josiah Quincy, Jr. bequeathed to the College the sum of £2000 sterling, in case his son Josiah should die before attaining his majority, or without issue. As "his son Josiah" is still living, surrounded by all "that should accompany old age," the College has never received this legacy in money, but has enjoyed the benefit of the services of that son, as its president, for the term of nearly seventeen years, "by which the College hath been a great gainer."						
1777	Rev. John Barnard, of Marblehead, bequeathed,				200	0	0
1779	Theodore Atkinson, of Portsmouth, bequeathed to the College £100 sterling; but of this nothing was received till 1804, when there is a credit in the College books of				44	14	6
	No more appears ever to have been obtained.						
	George Gardner, of Salem, bequeathed the sum of £1333, but it does not appear that anything was ever received on account of it.						
	Amount carried forward,	18274	0	7½	13140	16	6

Date.		£ Sterling.	Mass. Currency.
	Amount brought forward, ...	18274 0 7½	13140 16 6
1780	Joseph Mico, of London, who for forty years performed the business of the College without charge, was deservedly enrolled among its benefactors, by a vote of the Corporation. The amount which he might reasonably have charged for his services, though unknown, can not be deemed inconsiderable.		
	The Royal Society presented Maskeline's Astronomical Observations.		
1783	Benjamin Pemberton, Esq., bequeathed, . . .		20 0 0
	The Royal Society voted to send their publications annually.		
1784	Rev. Dr. Appleton bequeathed, for the same purpose for which he gave £30 in 1772, ...		26 0 0
	The following persons presented books to the library this year, viz.:—		
	Rev. Dr. Erskine,		
	Rev. Hugh Farmer,		
	Mr. William Foster,		
	Mr. Benjamin Guild,		
	Thomas Brand Hollis,		
	Dr. John Jeffries,		
	Gen. Knox,		
	Thomas Lee, Esq., of Cambridge,		
	Rev. Mr. Lindsey,		
	Dr. Price,		
	Rev. Thomas Reader,		
	Rev. Mr. Toulmin,		
	Jas. Winthrop, Esq.		
	The king of France offered to send from the Royal Garden seeds and plants, free of expense.		
	The Meteorological Society of Manheim offered to send Meteorological instruments, &c.		
1785	Mrs. Joanna Alford, for indigent students, . . .		133 6 8
	Books were presented by sundry persons, among others, a valuable collection by		
	Granville Sharp.		
1789	Thomas Brand Hollis gave, this year, as he had also done in 1787 and 1788, many curious and valuable books.		
1790	Mrs. Sarah Derby, in aid of the professorship founded by her late husband, Dr. E. Hersey, .		1006 1 7
	Mrs. Sarah Winslow, for the aid of the town of Tyngsborough, in supporting a minister and a schoolmaster, ...		1867 10 0
1791	Hon. James Bowdoin, for prizes for dissertations, .		400 0 0
	Dr. Erskine, a frequent benefactor in former years, again gave a number of books.		
	Major William Erving, for a professorship of chemistry, ...		1000 0 0
	Also many of the books of his library.		
	Mr. Edward Savage presented a portrait of Gen. Washington.		
	Col. John Trumbull, a portrait of Cardinal Bentivoglio.		
1792	Dr. John Cuming, for the professor of Physic, £300 sterling, ...		400 0 0
1793	Thomas Brand Hollis, many valuable books.		
	Dr. Lettson, of London, in addition to several gifts previously made, this year presented a valuable collection of minerals, numbering more than 700 specimens.		
1794	Dr. Abner Hersey, of Barnstable, bequeathed, for the Professor of Physic, ...		500 0 0
	Total, ...	£18274 0 7½	17993 14 9
	Converted to dollars, and carried forward, ...		$141,197 04

Date.		Dollars.
	Amount brought forward,	$141,197 04
1798	Jonathan Mason, of Boston, for the Professor of Divinity, $500,	500 00
1800	Ward N. Boylston, for the purchase of medical and surgical works, $500,	500 00
	He also presented, at sundry times, a number of books of this description, together with prints, &c.	
	Dr. John Nichols, of London, presented a large number of anatomical preparations, calculi, engravings, &c.	
1801	Samuel Shapleigh, late librarian, gave a piece of real estate in Kittery, and the "residue" of his estate for the increase of the library. The sum obtained from this bequest was	3,000 00
1803	Ward N. Boylston, Esq., an annuity of $100, for prizes for dissertations on medical subjects, equal to the sum of $2000, which was afterward obtained for it,	2,000 00
1805	A subscription was raised for establishing a Botanic Garden, and a professorship of Natural History, for which purposes there was contributed the sum of	31,333 33
1806	Thomas Brand Hollis bequeathed, for the library, £100 sterling,	444 44
1811	Samuel Dexter, for a lectureship for the critical exposition of the Scriptures,	5,000 00
1812	Mary Lindall, of Charlestown, for indigent scholars, £100,	333 33
1814	Esther Sprague, of Dedham, for the professor of the Theory and Practice of Physic,	2,000 00
	Samuel Eliot, for professorship of Greek Language and Literature,	20,000 00
1815	Samuel Parkman, for a professorship of Theology, a township of land in Maine, for which was obtained afterward the sum of,	5,000 00
1816	Count Rumford, for a professorship, or lectureship, on the application of science to the arts,	28,000 00
	Abiel Smith, for a professorship of the French and Spanish Languages,	20,000 00
1817	A subscription for establishing a Theological School in connection with the College amounted to	30,000 00
	Ward N. Boylston, for prizes for elocution, an annuity of $50, afterward $60, subsequently $1000,	1,000 00
	Israel Thorndike, for the purchase of books, for theological library,	500 00
	Judge Wendell, twenty half eagles, for a Christening basin,	100 00
1818	Israel Thorndike presented the Ebeling Library, which cost,	6,500 00
1819	Theodore Lyman, Jr., presented the Panorama of Athens, valued at,	2,500 00
	Drs. James Jackson, John C. Warren, John Gorham, Walter Channing, and Jacob Bigelow, professors in the Medical School, presented a library to the Medical College.	
1820	Ward N. Boylston presented many volumes to the Medical Library.	
	Moses Brown bequeathed to the Theological Institution,	20,00 00
	Several gentlemen gave to the Mineralogical Cabinet about,	23,00 00
	Thomas Cary, for aid to theological students, bequeathed the "residue" of his estate, which amounted to about,	3,600 00
	Thomas Palmer bequeathed his library of 1200 volumes, valued at,	2,500 00
	Andrew Ritchie presented a valuable collection of minerals.	
1821	An anonymous donation, of which the income is to be given to the most distinguished scholar among the indigent members of the senior class,	1,200 00
	Subscription for a professor of Mineralogy and Geology,	1,200 00
1822	James Perkins, for a professorship, such as "the President and Fellows, with the concurrence of the Overseers, shall judge to be most useful,"	20,000 00
	James Winthrop bequeathed his collection of coins, valued at,	253 00
1823	S. A. Eliot, gave the Warden Library,	5,000 00
	The Linnæan Society gave their collection of animals, shells, minerals, &c., valued at,	300 00
1825	William Breed left a portion of the residue of his property, to be given by his executor "to objects of charity, or for the promotion of learning piety, and religion, especially among the rising generation." In pursuance of this direction, his executor, the Hon. P. O. Thacher, appropriated to the College,	2,000 00
	Amount carried forward,	$340,261 14

Date.		Dollars.
	Amount brought forward,	$340,261 14
1825	A person unknown gave, for the purchase of books,	50 00
	Rev. F. Parkman, presented 400 models of crystals.	
1826	William H. Eliot, gave a copy of the "Description del'Egypte,"	1,000 00
	Another subscription was made in this year for the benefit of the Theological School, and the Society for the promotion of Theological Education in Harvard University was formed.	
	The sum collected at this time was,	19,322 23
1829	Nathan Dane, for a Professorship of Law,	10,000 00
	George Partridge, for the Theological School,	2,000 00
	Subscription for a professorship of Pulpit Eloquence and Pastoral Care, to which Rev. Henry Ware, Jr., was first appointed,	13,180 00
1830	Eben Francis, treasurer, gave the amount of his commission from the Hollis Funds, for a clock for the Library,	150 00
1831	Christopher Gore* gave the residue of his estate, of which $38,000 are reserved for annuities bequeathed by him. The whole ultimately receivable by the College, amounts to,	94,888 00
	Thomas Perkins, for an essay on the effects of intemperance, and for another on the importance of industrious habits in youth,	200 00
	Isaiah Thomas, bequeathed books from his library, to the value of,	300 00
1832	Thomas W. Ward, gave an interesting collection of Crania, casts, and drawings, which had belonged to the late Dr. Caspar Spurzheim, valued at about,	100 00
1833	Samuel Livermore, of Portsmouth, N. H. bequeathed his whole library of foreign law, 300 volumes, valued in the inventory of his estate, at,	6,000 00
1834	Rev. George Chapman, intestate, desired that the residue of his estate should be given to Harvard College, for the benefit of indigent students in the Theological School. This wish was carried into effect by his heirs, and the sum received from the late Jonathan Chapman, his brother, was,	1,261 42
	Joshua Fisher, for the foundation of a Professorship of Natural History,	20,000 00
	John McLean,† for a Professorship of History,	20,552 30
	Rev. Dr. Eliphalet Porter, for promoting Theological Education,	1,000 00
1835	Sarah Jackson, for the aid of indigent theological students,	10,000 00
	William Pomeroy, for the same object,	1,000 00
	Dr. William J. Walker, half the proceeds of a share in the Athenæum,	90 00
1836	Hannah C. Andrews, for the Theological School,	500 00
	Joshua Clapp, for the Theological School,	1,000 00
	The class graduating in 1836 gave 111 volumes to the Library.	
	N. Dane, in addition to $10,000 given in 1831, for the Law School,	5,000 00
	Thirteen gentlemen subscribed $10 each for a portrait of Chancellor Kent, to be placed in the Law Library,	130 00
1838	Several gentlemen subscribed for the purpose of raising a fund, the income of which should be loaned to meritorious students, and the sum contributed was placed in the hands of trustees for this purpose. It amounted to $12,050,	12,050 00
	Thirty gentlemen also contributed $100 each for an Astronomical Observatory,	3,000 00
	Dr. T. M. Harris gave 400 volumes to the Theological School.	
	The heirs of the late William Taylor, Esq., gave about 700 volumes to the College Library.	
	Timothy Walker, bequeathed to the Theological School,	1,000 00
1839	Joshua Clapp, a second donation to the Theological School,	1,000 00
	Mrs. Mary Tufts, for do.	300 00
1840	John Foster, for the aid of professional students,	2,000 00
	Dr. F. Parkman, for a professorship in the Theological School,	5,000 00
1841	Mrs. Cragie, bequeathed a valuable collection of shells.	
	The Misses Dunster, only surviving descendants of President Dunster, presented his Bible, of which the Old Testament is in Hebrew, and the New Testament in Greek.	
	Henry Lienow, devised one half of the residue of his estate to	
	Amount carried forward,	$572,535 09

* This bequest was made in 1835. † This bequest was made in 1821.

Date.		Dollars.
	Amount brought forward,	$572,535 00
	Harvard College, for the use of the Theological School. There has been received from it up to this time, August, 1848, the sum of,	3,808 60
1841	The Society for Promoting Theological Education in Harvard College, gave for increasing the amount appropriated to the Dexter Lectureship on Biblical Criticism, the sum of,	10,000 00
1842	The Association of the Alumni, for defraying in part the expense of providing a large hall for public meetings,	2,266 05
	Francis Peabody presented a valuable telescope.	
	Chief Justice Shaw, a copy of Stuart's portrait of Washington.	
	A subscription was made for the College Library by thirty-four gentlemen, to the amount of,	21,008 00
1843	W. N. Boylston, bequeathed, to be paid on the death of Mrs. Boylston, for the fund for prizes for Elocution,	1,000 00
	Do., for the fund for prizes for Medical Essays,	1,000 00
	Do., for the fund for an Anatomical Museum and Library Room,	1,000 00
	"A few friends of science," presented, through Prof. Webster, a collection of minerals and fossils, which cost,	1,000 00
	Prof. Gray, gave a collection of specimens of the rocks and minerals of New York and New Jersey.	
	David Sears, for the erection of an Observatory Tower,	5,000 00
	A subscription for a Telescope, and other instruments necessary for an Observatory, was raised this year, to the amount of,	20,120 00
1844	Horace A. Haven, bequeathed, for the purchase of mathematical and astronomical works for the Library,	3,000 00
	Israel Munson, bequeathed, unconditionally,	15,000 00
1845	William Prescott, bequeathed, for the purchase of books for the Library,	3,000 00
	Leverett Saltonstall, for aid to indigent students,	500 00
	Alexander Vattemare, presented some valuable books.	
	David Sears, toward a fund for the salary of an observer,	5,000 00
1846	Peter C. Brooks, for erecting a house for the President,	10,000 00
	Hon. Thomas Grenville, of London, gave, through President Everett, £100 for the purchase of books for the Library,	480 00
	Miss N. Kendall, for the Theological School,	2,000 00
	Dr. George Parkman, gave the land on which has been erected the new Medical School building.	
	A subscription was made among the friends and pupils of Dr. Abbott, of Exeter, N. H., for the foundation of a Scholarship to be called by his name. The sum subscribed was,	1,635 00
	Wm. G. Stearns, presented a set of silver keys, with a case.	
	A subscription for a fund to support an astronomical observer and his assistants for two years was made, which amounted to,	5,050 00
	A subscription for the purchase of the skeleton of a Mastodon was made, to the amount of,	3,065 00
	A subscription for the new Medical School building,	4,600 00
1847	A. W. Fuller, for the Theological School,	1,000 00
	Dr. George Hayward, 152 models, of various forms of disease, to the cabinet of the Medical School.	
	Dr. J. C. Warren, a cabinet of preparations to Medical School, valued at,	10,000 00
	Also a fund for the preservation and increase of the same,	5,000 00
	Abbott Lawrence, for the Scientific School,	50,000 00
1848	Edward B. Phillips, bequeathed for the Observatory,	100,000 00
	Professor J. W. Webster, presented to the Library for College Chapel, a complete set of Chants for male voices.	
	Mr. F. E. Hall, Class of 1846, made valuable donations of books to the Library, and a copy of the Koran in manuscript.	
	Hon. E. Lane, presented the Library with a valuable collection of manuscripts, chiefly in the Delaware language.	
	F. Field, Esq., of Bath, England, presented a valuable Fossil Saurian.	
	N. D. Gould, Esq., presented a beautiful specimen of Chirography.	
	The Class of 1802, presented to the Corporation their fund, of,	4,000 00
	A Beneficiary, gave to "Theological Fund,"	75 00
1849	More than six thousand specimens of minerals were added to	
	Amount carried forward,	$862,142 74

Date.		Dollars.
	Amount brought forward,	$862,142 74
	the Cabinet, by the liberality of sundry gentlemen, who gave toward the purchase of the collection, the sum of,	3,175 00
1849	Henry S. Sandford, Esq., presented a complete collection of the various materials used in the manufacture of the porcelain of Berlin.	
	Hon. Abbott Lawrence, gave in addition to his former donation for a Scientific School, the sum of $1,500 per annum for five years, amounting to,	7,500 00
	Dr. J. C. Warren, presented a valuable collection of casts of Crania, for the Anatomical Museum.	
	Thomas C. Clark, Esq., presented a portrait of Dr. Samuel Cooper, painted by Copley.	
	Hon. Edward Everett, caused the manuscripts presented to the College by Chief Justice Lane, to be arranged and bound in 16 volumes at his own expense, and placed in a trunk for safe keeping.	
1850	The Lords of the Treasury, England, presented a copy of "Fauna Antiqua Scivalensis."	
	A marble bust of Rev. Dr. Pierce, of Brookline, was presented to the College, by several gentlemen.	
	The Class of 1815, presented a Fund to be called the "Kirkland Scholarship Fund of 1815," amounting to,	2,303 00
	W. L. Lee, Esq., presented specimens of Lava, Coral, &c., from the Sandwich Islands and Oregon.	
	Dr. J. C. Warren, presented a bust of Dr. John Warren, first professor of Anatomy in the University.	
	Miss Anna W. Storer, presented a portrait of her father, Eben Storer, who was Treasurer of the College for the term of thirty years.	
1851	Hon. Thomas H. Perkins, presented to the Library, "Audubon's Quadrupeds of America," with a description of the same.	
	A number of gentlemen raised a fund by subscription and expended the same, by adding a new wing to the Observatory at Cambridge, amounting to,	4,800 00
	J. I. Bowditch, Esq., presented to the Observatory a "Comet Seeker."	
	Mr. W. W. Sever, presented a collection of manuscript papers, relating to the history of the College.	
1852	Uriah A. Boyden, Esq., presented for the purchase of books on Physics, the sum of,	300 00
	He also, presented 69 vols. of the "Annalin der Physick."	
	Mrs. Sarah H. Oliver, presented an original portrait of Whitefield.	
	Dr. Calvin Thomas, of Tyngsboro', bequeathed, for "Indigent Theological Students," the sum of,	100 00
	Mr. Lewis Gould, of Ashby, bequeathed to 'Theological School,'	868 00
	A number of gentlemen, subscribed for the purchase of a portrait of Prof. E. I. Channing, and presented the same to the College.	
	Class of 1817, presented, to found Scholarships,	1,015 00
	Charles Sanders, of Cambridge, presented a copy of the "Paleographic Universelle," in four vols.	
	Several gentlemen, in behalf of the Law School, presented portraits of Professors Parker and Parsons.	
	Leverett Saltonstall, Esq., presented a portrait of Sir Richard Saltonstall, being a copy of the original, by Rembrandt.	
1853	Several gentlemen subscribed to a fund to be expended in the purchase of books for the "Department of English Poetry," the sum amounted to,	1,105 00
	James Brown, Esq., presented a costly pulpit Bible for the use of the Chapel in Divinity Hall.	
	The Class of 1814, subscribed, to found Scholarships,	2,300 00
	A subscription to purchase bust of Dr. Kirkland, was made, and the same presented to the Library.	
	Subscription for the purchase of objects of Natural History, belonging to Prof. Agassiz was made, amounting to,	10,175 00
	Dr. George C. Shattuck, presented, toward sustaining the Chair	
	Amount carried forward,	$895,783 74

Date.		Dollars.
	Amount brought forward,	$895,783 74
	of Pathological Anatomy in the Massachusetts Medical College, the sum of $14,000—the income arising from the same, to be paid to the incumbent of said Chair,	14,000 00
1853	Mr. N. Smith, presented a silver Tankard, once the property of Henry Dunster, the first President.	
	The Class of 1835, subscribed to found Scholarships,	245 00
1854	Hon. Jonathan Phillips, presented $10,000—the income thereof, to sustain a "Greek Professor,"	10,000 00
	Dr. George C. Shattuck, presented toward sustaining students in Mathematics, or in the study of the Languages, the sum of,	10,000 00
	Hon. T. H. Perkins, presented a bust of Hon. Edward Everett, by Powers.	
	Mrs. F. Parkman, presented to the Library of the Theological School, books on Theology, the property of her late husband, Dr. Francis Parkman.	
	Miss Caroline Plummer, of Salem, bequeathed $15,000—the income thereof, to be used for the support of a "Professor of the Philosophy of the Heart,"	15,000 00
	The American Sunday School Union, presented to the Library, a complete set of their publications, amounting to more than nine hundred volumes.	
	Sundry gentlemen subscribed for, and presented to the College, the bust of Rev. President Walker.	
	The Trustees of the late Hon. Samuel Appleton, presented property, valued at $50,000—for the purpose of erecting a Chapel for the use of the University,	50,000 00
1855	Hon. Samuel B. Wolcott, presented two bonds of the Philadelphia and Reading Railroad—the income thereof, to be appropriated for Scholarships; called "Wolcott Scholarships,"	2,000 00
	The Class of 1835, subscribed to found Scholarships,	490 00
	Hon. J. J. Appleton, left in the "safe-keeping of the College," a portrait of Rev. Nathaniel Appleton; also, a portrait, the wife of Rev. N. Appleton, both by Copley.	
	The late James Brown, Esq., bequeathed to the Library, books in the department of Natural History, amounting to,	5,000 00
	Mrs. Susan J. Davis, presented a collection of Classical Works, the property of her late son, Thomas K. Davis.	
1856	Hon. Jared Sparks, presented a portrait of Franklin, the donation of Joshua Bates, Esq., of London.	
	William T. Andrews, Esq., Treasurer of the College, presented to increase the fund belonging to the "Plummer Professorship," the sum of,	2,500 00
	An "Anonymous" donation was made to the "Plummer Professorship," of,	3,000 00
	Several gentlemen contributed toward increasing the Mineralogical Cabinet, the sum of,	1,720 00
	J. S. Warren, Esq., in accordance with the wishes of his late father, gave an original portrait of Dr. Franklin.	
	His Majesty, King of Hanover, presented to the Library, two medals of silver and bronze.	
	Uriah A. Boyden, Esq., gave, for Mathematical Prizes, the sum of,	600 00
	Col. Benjamin Loring, and other gentlemen, purchased the Library of Prof. Locke, of Gottingen, and presented the same to the Divinity School, (cost $1,900,)	1,900 00
	The Class of 1835, subscribed to found Scholarships,	430 00
	Dr. Henry B. Wales, bequeathed his fine Library to the College; and also, the income of his property after it shall come into possession of the College, for the support of a teacher in the Sanscrit Language, &c.	
	Thomas Lee, Esq., presented property amounting to $10,030—the income thereof, to be paid to Prof. J. Wyman Hersey, professor of Anatomy,	10,030 00
	A new fence was erected around the Botanical Garden at Cambridge, being the subscription of several gentlemen, amounting to the sum of,	1,050 00
	Dr. George Hayward, presented an original portrait of the late Dr. Greenwood.	
	Amount carried forward,	$1,023,748 74

Date.		Dollars.
	Amount brought forward, ...	$1,023,748 74
1857	Hon. Francis C. Gray, bequeathed his valuable collection of engravings; and also, $1,000—for keeping the same in order, &c. The engravings, valued at $30,000, ...	1,000 00
	Hon. Samuel Hoar, bequeathed to the "Theological School," .	1,000 00
	The Society for Promoting Theological Education, has agreed to sustain two new Professorships in the Divinity School, one of Ecclesiastical History, and one of Systematic Theology, by the payment of $600 annually, to each Professor for six years.	
	Mrs. E. W. Haven, of Portsmouth, presented to the Library more than 700 volumes belonging to her late husband, N. Haven, Jr.; and also, coins and medals.	
	Subscriptions have been obtained by Prof. Cooke, and others, for building a Museum, to be united with the Boylston Fund, for that purpose, amount of subscription added to the Boylston Fund is, ...	17,000 00
	William Pickman, Esq., bequeathed to "the President and Fellows of Harvard College," the sum of, ...	3 000 00
	George W. Wales, Esq., directed the works of his brother, Dr. H. B. Wales, to be bound, and cases to secure the same, to be prepared at his own expense.	
	William T. Andrews, Esq., presented a further sum for the "Plummer Professorship," amounting to, ...	2,500 00
1858	Thomas W. Ward, Esq., bequeathed to the College the sum of $5,000—the income to be expended annually for the purchase of books, ...	5,000 00
	The Executors of the late Thomas Dowse, gave for the construction of a Botanical Conservatory at Cambridge, the sum of,	2,000 00
	Mrs. L. L. Waterhouse, presented the bust of her late husband, D. W. Waterhouse; also, a number of volumes from his Library.	
	Professor J. P. Cook, Jr., gave the Baptismal Font of Stone, in front of the Chancel of the Appleton Chapel.	
	An Anonymous donation was presented through Dr. Huntington, for building a Gymnasium at Cambridge, amounting to,	8,000 00
	Several gentlemen presented to the Library, the bust of Hon. Charles Sumner.	
	John C. Gray, Esq., presented for Mathematical prizes, . .	500 00
	Hon. Stephen Salisbury, presented to the Library the sum of $5,000—the income to be applied to the purchase of books in Greek and Latin and in other languages, ...	5,000 00
	William Gray, Esq., as residuary legatee of his uncle, Hon. F. C. Gray, gave the sum of $15,000—the income to be expended in keeping the collection of engravings given by him in order, and in publishing a catalogue of the same, . .	15,000 00
	William Gray, Esq., as residuary legatee of his uncle, Hon. F. C. Gray, gave the sum of 50,000—the income to be expended in establishing and maintaining a Museum of Comparative Zoölogy at Cambridge, ...	50,000 00
	Total, ...	$1,133,748 74

P. S. Since making up this account, the College has received a bequest, made by the late Abbott Lawrence, of $50,000, to be added to the sum, given in his lifetime for scientific purposes; also, a bequest of Miss Mary Osgood, for the purchase of books. The bequest of Leonard Jarvis, referred to in Table V., has been received.

TABLE III.

REAL ESTATE GIVEN AT VARIOUS PERIODS BY INDIVIDUALS AND THE TOWN OF CAMBRIDGE TO HARVARD COLLEGE.

Date.		Acres.
1638	Town of Cambridge gave 2½ acres of land,	2½
1645	Mr. John Buckley gave part of a garden containing about 1 acre and a rood,	1
1646	Israel Stoughton gave 200 acres, on the northeast side of Neponset, about Mother Brook,	200
	and 100 acres on Blue Hill side,	100
	Rev. Nathaniel Ward gave 600 acres,	600
	Major R. Sedgwick, two small shops in Boston.	
1649	Mathew Day, part of a garden of which Mr. John Buckley gave his share in 1645,	
	Town of Cambridge gave a farm, at Shawshin (now Billerica,) 100 acres,	100
	to which Henry Dunster added 100 acres,	100
1652	Robert Cook gave to the college a grant from the General Court of 800 acres, which were never obtained.	
	John Coggan gave a parcel of marsh land, lying in Rumney Marsh,	70
1656	John Hayward gave 30 acres, lying in Watertown,	30
1660	Rev. Ezekiel Rogers gave the reversion of his house and lands, which were sold, and a farm at Waltham, purchased, called Rogers farm, which produced, in 1835 $5,000.	
	Henry Webb gave his house and land which he purchased of H. Phillips, formerly owned by S. Oliver.	
1662	The town of Cambridge, 3 acres,	3
1664	Town of Cambridge gave 30 acres of land and three commons,	30
1672	Richard Champney gave 40 acres, more or less, near the falls on Charles River,	40
	John Haywood gave his house-lot at Watertown, 24 acres,	24
1678	Rev. Daniel Russell bequeathed 1000 acres at Winter Harbor, of which the College never obtained possession.	
1681	Samuel Ward gave Ward's Island.	
	Edward Jackson, 400 acres,	400
1683	Town of Cambridge, 20 acres and three commons in Lexington,	20
1689	Do. in Cambridge Rocks, in the 1st division, 12 acres,	12
	2d " lot 36, 12 acres,	12
1695	Theodore Atkinson gave a piece of land at southward of Boston, about 20 rods. (*Not obtained.*)	
1696	Samuel Sewall and wife gave 500 acres, at Petaquamscot,	500
1702	William Stoughton gave 23 acres of land in Dorchester, and salt meadow,	23
1707	Town of Cambridge, Cambridge Rocks, lot 36, 7½ acres,	7½
	" 77, 1½ "	1½
	" 12, 7½ "	7½
1718	Proprietors of the town of Rutland, in Boston, gave 250 acres,	250
1724	Town of Cambridge, 3 acres,	3
1731	Samuel Brown gave his estate purchased of Eleazer, Giles 200 acres; also, stock belonging to his farm,	200
	Isaac Royall gave 2,120 acres, or thereabout,	2,120
	Thomas Pownall gave 500 acres, for founding a Professorship of Political Law, for which nothing was realized.	
1801	Samuel Shapleigh bequeathed all his real estate.	
1814	Samuel Parkman gave a township of land in Maine, sold for $5,000.	
1820	Thomas Cary bequeathed his real and personal estate.	
1826	C. Gore bequeathed all his real estate after certain legacies.	
1841	Henry Lienow bequeathed a portion of his real and personal estate.	
	Total,	4,857 5/12

TABLE IV.

CONDITION OF THE COLLEGE PROPERTY, AUGUST 31st, 1859.

The Treasurer's Report for 1860, exhibits the state of the Productive Property, August 31st, 1859—other than College Grounds, Building, Library, Cabinet, &c.

Notes and Mortgages,	$376,687 52
Bonds,	38,000 00
Bank Stock,	33,860 75
Manufacturing Stock,	53,530 00
Appleton Chapel Fund,	50,370 00
Railroad Stock,	10,000 00
Annuities,	4,794 44
Real Estate—(other than University site and buildings,)	182,101 04
Sundry Investments,	64,854 07
Gray Fund for Zoölogical Museum and Engravings,	65,000 00
Balances,	16,707 85
Total,	$1,095,905 67

The foregoing Property is answerable for the following purposes:—

For Academic Department,	$209,483 71
For Scholarships,	33,969 54
For Special Professorships,	312,443 95
For Library,	26,813 11
For Theological School,	103,267 62
For Law School and Boarding Establishment,	55,093 79
For Scientific School,	82,925 20
For Medical School,	28,404 12
For Observatory,	109,251 36
For Special, (Annuities, Chapel, Engravings, &c.,)	66,736 36
For Zoölogical Museum,	50,412 74
For Objects not connected,	19,788 37
Total,	$1,095,905 67

TABLE V.

LEGACIES AND DONATIONS TO BE RECEIVED.

Date.		Dollars.
	To the gifts already recorded, may be added the following donations which have been made to the College, but are not yet received, being made payable at a future day:—	
1841	The bequest of the late Benjamin Bussey of the remainder of his whole estate, one half of which is to be applied to the maintenance of a Manual Labor School upon his estate in Roxbury, and the other half is to be divided into equal parts, for the benefit of the Law School and the Theological School, connected with the College. The whole estate now amounts to about,	320,000 00
1845	The bequest of John Parker, Jr., Esq., for the education of boys who show uncommon talent, whether before or after the period of entering College, and giving them the most thorough instruction in the branch of knowledge for which they are peculiarly qualified,	50,000 00
1855	Hon. Josiah Quincy, guarrantees during his life, the sum of $600 per annum, and after his decease the principal sum of $10,000—the income is to be applied to publishing the "Annals of the Observatory."	
1856	The late Leonard Jarvis, Esq., of Baltimore, bequeathed "one half part of lot in Baltimore"—(will net about $14,000.)	
1859	William Gray, Esq., has signified his intention of paying $5,000 per annum, for five years, ($25,000,) for purchasing books for the Library.	
	Total,	$370,000 00

LAWS, RULES, AND SCHOLASTIC FORMS.

ESTABLISHED BY PRESIDENT DUNSTER.

Statuta, Leges, Privilegia, et Ordinationes, per Inspectores et Præsidem Collegii Harvardini constitutæ An. Chr. 1642, 1643, 1644, 1645, 1646, ***et promulgatæ ad scholarium salutem et disciplinam perpetuò conservandam.***

1. Cuicunque fuerit peritia legendi Ciceronem aut quemvis alium ejusmodi classicum authorem ex tempore, et congruè loquendi ac scribendi Latinè facultas oratione tam solutâ quam ligatâ, suo, ut aiunt, Marte, et ad unguem inflectendi Græcorum nominum verborumque paradigmata; hic admissionem in Collegium jure potest expectare. Quicunque verò destitutus fuerit hac peritiâ, admissionem sibi neutiquam vendicet.

2. Considerato unusquisque ultimum finem vitæ ac studiorum, cognitionem nimirum Dei et Jesu Christi, quæ est vita æterna. Joh. xvii. 3.

3. Cum Deus sapientiæ sit largitor, privatis precibus sapientiam ab eo singuli ardenter petunto. Prov. ii. 2, 3, &c.

4. In Sacris Scripturis legendis bis quotidie unusquisque se exerceto; quo paratus ac peritus sit rationem reddendi suorum profectuum, tam in theoreticis philologicis observationibus, quam in spiritualibus practicis documentis, quemadmodum tutores requirent pro suo cujusque captu, quum "aditus verbi illuminat." Psal. cxix. 130.

5. In publico sanctorum cœtu omnes gestus, qui contemptum aut neglectum præ se ferunt sacrarum institutionum, studiosè cavento, atque ad rationem tutoribus reddendam quid profecerint parati sunto; omnibusque legitimis sibi scientiam reponendi mediis utuntor, prout à suo quisque tutore institutus fuerit.

6. Omnem profanationem Sacrosancti Dei nominis, attributorum, verbi, institutionum ac temporum cultûs, evitanto; Deum autem et ejus veritatem in notitiâ retinere, summâ cum reverentiâ et timore, studento.

7. Honore prosequuntor, ut parentes, ita magistratus, presbyteros, tutores, suosque omnes seniores, prout ratio postulat; coram illis tacentes nisi interrogati, nec quicquam contradicentes, eis exhibentes honoris et reverentiæ indicia quæcunque laudabili usu recepta sunt, incurvato nimirum corpore salutantes, aperto capite adstantes, &c.

8. Ad loquendum tardi sunto; evitent non solum juramenta, mendacia, et incertos rumores, sed et stultiloquium, scurrilitatem, futilitatem, lasciviam, omnesque gestus molestos.

9. Nequis se intrudat vel rebus alienis immisceat.

10. Dum hic egerint, tempus studiosè redimunto, tam communes omnium scholarium horas, quam suis prælectionibus destinatas, observando; prælectionibus autem diligenter attendunto, nec voce nec gestu molesti. Siquid dubitent, sodales suos, aut (nondum exempto scrupulo) tutores modestè consulunto.

11. Nequis sub quovis prætextu hominum, quorum perditi sunt ac discincti mores, consuetudine seu familiaritate utitor. Neque licebit ulli, nisi potestate ab Inspectoribus Collegii factâ, bellicis lustrationibus interesse. Nemo in pupillari statu degens, nisi concessâ priùs à tutore veniâ, ex oppido exeat; nec quisquam, cujuscunque gradûs aut ordinis fuerit, forum frequentet, vel diutius in aliquâ oppidi plateâ moretur, aut tabernas, cauponas, vel diversoria ad commessandum aut bibendum accedat, nisi ad parentes, curatores, nutricios, vel hujusmodi, accersitus fuerit.

12. Nullus scholaris quicquam, quod sex denarios valeat, nullo parentum, curatorum, aut tutorum approbante, emito, vendito, aut commutato. Quum autem secus fecerit, à Præside pro delicti ratione multabitur.

13. Scholares vernaculâ linguâ intra Collegii limites nullo prætextu utuntor, nisi ad orationem aut aliud aliquod exercitium publicum Anglicè habendum evocati fuerint.

14. Siquis scholarium à precibus aut prælectionibus abfuerit, nisi necessitate coactus aut tutoris nactus veniam, admonitioni aut aliusmodi pro Præsidis prudentiæ pœnæ, si plus quam semel in hebdomade peccaverit, erit obnoxius.

15. Scholarium quisque donec primo gradu ornetur, ni sit commensalis, aut nobilis alicujus filius, aut militis primogenitus, suo tantum cognomine vocator.

16. Nullus scholaris quâvis de causâ (nisi præmonstratâ et approbatâ Præsidi vel tutori suo) à suis studiis statisve exercitiis abesto, exceptâ horâ jentaculo, semihorâ merendæ, prandio verò sesquihorâ, pariter et cenæ concessâ.

17. Siquis scholarium ullam Dei et hujus Collegii legem, sive animo perverso, seu ex supinâ negligentiâ, violârit, postquam feurit bis admonitus, si non adultus, virgis coërceatur, sin adultus, ad Inspectores Collegii deferendus erit, ut publicè in eum pro meritis animadversio fiat; in atrocioribus autem delictis, ut adeò gradatim procedatur, nemo expectet, nec ut admonitio iterata super eâdem lege necessario fiat.

18. Quicunque scholaris, probatione habitâ, poterit sacras utriusque instrumenti Scripturas de textu originali Latinè interpretari et logicè resolvere, fueritque naturalis et moralis philosophiæ principiis imbutus, vitâque ac moribus inculpatus, et publicis quibusvis comitiis ab Inspectoribus et Præside Collegii approbatus, primo suo gradu possit ornari.

19. Quicunque scholaris scriptam synopsin vel compendium logicæ, naturalis ac moralis philosophiæ, arithmeticæ, geometriæ, et astronomiæ exhibuerit, fueriique ad theses suas defendendas paratus, nec non originalium ut supra dictum est linguarum peritus, quem etiamnum morum integritas ac studiorum diligentia cohonestaverint, publicis quibusvis comitiis probatione factâ, secundi gradûs, magisterii nimirum, capax erit.

The Laws, Liberties, and Orders of Harvard College, confirmed by the Overseers and President of the College in the years* 1642, 1643, 1644, 1645, *and* 1646, *and published to the Scholars for the perpetual preservation of their welfare and government.

1. When any scholar is able to read Tully, or such like classical Latin author *extempore*, and make and speak true Latin in verse and prose *suo* (*ut aiunt*) *Marte*, and decline perfectly the paradigms of nouns and verbs in the Greek tongue, then may he be admitted into the College, nor shall any claim admission before such qualifications.

2. Every one shall consider the main end of his life and studies, to know God and Jesus Christ, which is eternal life. John xvii. 3.

3. Seeing the Lord giveth wisdom, every one shall seriously, by prayer in secret, seek wisdom of Him. Proverbs ii. 2, 3, &c.

4. Every one shall so exercise himself in reading the Scriptures twice a day, that they be ready to give an account of their proficiency therein, both in theoretical observations of language and logic, and in practical and spiritual truths, as their Tutor shall require, according to their several abilities respectively, seeing the entrance of the word giveth light, &c. Psalm cxix. 130.

5. In the public church assembly, they shall carefully shun all gestures that show any contempt or neglect of God's ordinances, and be ready to give an account to their Tutors of their profiting, and to use the helps of storing themselves with knowledge, as their Tutors shall direct them. And all Sophisters and Bachelors (until themselves make common place) shall publicly repeat sermons in the Hall, whenever they are called forth.

6. They shall eschew all profanation of God's holy name, attributes, word, ordinances, and times of worship; and study, with reverence and love, carefully to retain God and his truth in their minds.

7. They shall honor as their parents, magistrates, elders, tutors, and aged persons, by being silent in their presence (except they be called on to answer), not gainsaying; showing all those laudable expressions of honor and reverence in their presence that are in use, as bowing before them, standing uncovered, or the like.

8. They shall be slow to speak, and eschew not only oaths, lies, and uncertain rumors, but likewise all idle, foolish, bitter scoffing, frothy, wanton words, and offensive gestures.

9. None shall pragmatically intrude or intermeddle in other men's affairs.

10. During their residence they shall studiously redeem their time, observe the generally hours appointed for all the scholars, and the special hour for their own lecture, and then diligently attend the lectures, without any disturbance by word or gesture; and, if of any thing they doubt, they shall inquire of their fellows, or in case of non-resolution, modestly of their Tutors.

11. None shall, under any pretence whatsoever, frequent the company and society of such men as lead an ungirt and dissolute life. Neither shall any, without license of the Overseers of the College, be of the artillery or train-band. Nor shall any, without the license of the Overseers of the College, his Tutor's leave, or, in his absence, the call of parents or guardians, go out to another town.

12. No scholar shall buy, sell, or exchange any thing, to the value of sixpence, without the allowance of his parents, guardians, or Tutor's; and whosoever is found to have sold or bought any such things without acquainting their tutors or parents, shall forfeit the value of the commodity, or the restoring of it, according to the discretion of the President.

13. The scholars shall never use their mother tongue, except that in public exercises of oratory, or such like, they be called to make them in English.

14. If any scholar, being in health, shall be absent from prayers or lectures, except in case of urgent necessity, or by the leave of his Tutor, he shall be liable to admonition (or such punishment as the President shall think meet), if he offend above once a week.

15. Every scholar shall be called by his surname only, till he be invested with his first degree, except he be a fellow commoner, or knight's eldest son, or of superior nobility.

16. No scholar shall, under any pretence of recreation or other cause whatever (unless foreshowed and allowed by the President or his Tutor), be absent from his studies or appointed exercises, above an hour at morning bever, half an hour at afternoon bever, an hour and a half at dinner, and so long at supper.

17. If any scholar shall transgress any of the laws of God, or the House, out of perverseness, or apparent negligence, after twice admonition, he shall be liable, if not *adultus*, to correction; if *adultus*, his name shall be given up to the Overseers of the College, that he may be publicly dealt with after the desert of his fault; but in greater offences such gradual proceeding shall not be exercised.

18. Every scholar, that on proof is found able to read the original of the Old and New Testament into the Latin tongue, and to resolve them logically, withal being of honest life and conversation, and at any public act hath the approbation of the Overseers and Master of the College, may be invested with his first degree.

19. Every scholar, that giveth up in writing a synopsis or summary of Logic, Natural and Moral Philosophy, Arithmetic, Geometry, and Astronomy, and is ready to defend his theses or positions, withal skilled in the originals as aforesaid, and still continues honest and studious, at any public act after trial he shall be capable of the second degree, of Master of Arts.

IN SCHOLARIBUS ADMITTENDIS.

1. Præbebis omnimodam debitam reverentiam honorandis magistratibus ac reverendis Presbyteris et Præsidi Collegii unà cum Sociis singulis.

2. Debitam diligentiam studiis incumbendo adhibebis, studiis inquam linguarum et artium liberalium, obsequendo tutori tuo et salutaribus ejus præceptis, quamdiu in statu pupillari versatus fueris in hoc Collegio.

3. Religiosè in te suscipies curam, dum hic commoraberis, observandi singulas salutares leges, statuta, et privilegia hujus societatis quantum in te situm est; atque etiam, ut observentur ab omnibus hujus Collegii membris in singulo uniuscujusque munere, fideliter curabis.

4. Sedulò prospicies nequid detrimenti Collegium capiat, quantum in te situm est, sive in ejus sumptibus, sive in ædificio et structurâ, fundis, proventibus, cæterisque omnibus, quæ nunc ad Collegium pertinent, aut, dum hic egeris, pertinere possunt.

Quod ad nos, Præsidem et Socios scilicet, spectat, pollicemur nos tibi non defuturos quibuscunque uostrâ intererit; imo verò in studiis tuis et pietate progressum, quantum in nobis fuerit, promovebimus.

SOCIIS ADMITTENDIS.

1. Præbebis omnimodam debitam reverentiam honorandis magistratibus ac reverendis Presbyteris et Præsidi, Collegii Inspectoribus.

2. Religiosè in te suscipies curam, dum hic commoraberis, observandi singulas salutares leges, statuta, et privilegia hujus societatis, quantum in te situm est, atque etiam, ut observentur ab omnibus hujus Collegii membris in singulo uniuscujusque munere.

3. Omnes et singulos studentes, qui tutelæ tuæ committuntur aut in posterum committendi sunt, ut promoveas in omni tam divinâ quam humanâ literaturâ, pro suo cujusque captu, atque, ut moribus honestè et inculpatè se gerant, summopere curabis.

4. Sedulo prospicies, nequid detrimenti Collegium capiat, quantum in te situm est, sive in ejus sumptibus, sive in ædificio et structurâ, fundis, proventibus, cæterisque omnibus, quæ nunc ad Collegium pertinent, aut, dum hic egeris, pertinere possint.

Quod etiam ad nos (Collegii Inspectores) spectat, pollicemur nos non tibi defuturos esse, quibuscunque tuâ intererit; imo verò te confirmabimus authoritate ac potestate nostrâ in omnibus tuis legitimis administrationibus, contra quoscunque contumaces. Et pro Collegii facultatibus erogabimus tibi idonea stipendia (i. e. pro modulo nostro), quæ sufficiant ad victum et amictum et literaturam tuam promovendam.

PRÆSENTATIO BACCALAUREORUM.

Honorandi viri, vosque, reverendi Presbyteri, præsento vobis hosce juvenes, quos scio tam doctrinâ quam moribus idoneos esse ad primum in artibus gradum suscipiendum pro more Academiarum in Angliâ.

ADMISSIO.

Admitto te ad primum gradum in artibus, scil. ad respondendum quæstioni pro more Academiarum in Angliâ, tibique trado hunc librum unà cum potestate publicè prælegendi (in aliquâ artium, quam profiteris) quotiescunque ad hoc munus evocatus fueris.

PRÆSENTATIO MAGISTRORUM.

Honorandi viri, vosque, reverendi Presbyteri, præsento vobis hosce viros, quos scio tam doctrinâ quam moribus esse idoneos ad incipiendum in artibus pro more Academiarum in Angliâ.

ADMISSIO INCEPTORUM.

Admitto te ad secundum gradum in artibus pro more Academiarum in Angliâ; tibique trado hunc librum unà cum potestate publicè profitendi, ubicunque ad hoc munus publicè evocatus fueris.

FORMULA PUBLICÆ CONFESSIONIS.

Ego, S. W., qui à cultu divino in aulâ Collegii tam matutino quam vespertino toties per aliquot menses abfui (in quâ absentâ monitis et aliis in me animadversionum gradibus non obstantibus hactenus perstiti), nunc culpam meam agnosco, et publicæ agnitionis hoc testimonio me reum profiteor, et majorem in his exercitiis pietatis diligentiam in posterum (Deo volente), dum hîc egero, polliceor.

CERTIFICATE FOR AN UNDERGRADUATE.

Per integrum biennium quo apud nos pupillari statu commoratus est A. B., Collegii Harvardini Cantabrigiæ in Nov-Angliâ alumnus, publicas lectiones tam philologicas quam philosophicas audivit, necnon declamationibus, disputationibus, cæterisque exercitiis, pro sui temporis ratione adeò incubuit, ut nobis certam spem fecerit illum suis coætaneis etiam in aliis collegiis (si admissus fuerit) non disparem fore. Quapropter hoc de illo testimonium omnibus, quorum interesse possit, perhibemus nos, quorum nomina subscripta sunt.

Datum.

CERTIFICATE FOR A BACHELOR OF ARTS.

Per integrum illud tempus quo apud nos commoratus est C. D. Collegii Harvardini Cantabrigiæ in Nov-Angliâ alumnus, et in artibus liberalibus Baccalaureus, bonarum literarum studiis vitæ probitatem adjunxit; adeò ut nobis spem amplam fecerit se in Ecclesiæ et Reipublicæ commodum victurum. Quapropter hoc de illo testimonium omnibus, quorum interesse possit, perhibemus nos, quorum nomina subscripta sunt.

Datum.

CERTIFICATE FOR A MASTER OF ARTS.

Per integrum illud tempus quo apud nos commoratus est E. F., Collegii Harvardini Cantabrigiæ in Nov-Angliâ alumnus, et in artibus liberalibus Magister, bonarum literarum studiis sedulò incubuit, sinceram veræ fidei professionem inculpatis suæ vitæ moribus exornavit, adeò ut nobis certam et amplam spem fecerit se in Ecclesiæ et Reipublicæ commodum victurum. Quapropter hoc de illo testimonium omnibus, quorum interesse possit, perhibemus nos, quorum nomina subscripta sunt.

Datum.

BACCALAUREORUM PRÆSENTATIO.

Supplicat Reverentiis vestris A. B., ut quadriennium ab admissione completum, quo ordinarias lectiones audiverit unà cum disputationibus, declamationibus, cæterisque exercitiis per statuta Col. requisitis (licet non omnino secundum formam statuti), sufficiat ei ad primum gradum in artibus suscipiendum.

MAG. PRÆSENTATIO IN ANGL.

Supplicat Reverentiis vestris N. N., ut novem termini completi post finalem ejus determinationem, in quibus ordinarias lectiones audiverit (licet non omnino secundum formam statuti) unà cum omnibus oppositionibus, responsionibus, declamationibus, cæterisque exercitiis per statuta regia requisitis, sufficiant ei ad incipiendum in artibus.

FIRST HARVARD HALL.

MONUMENT TO HARVARD, ON BURIAL HILL, IN CHARLESTOWN

VII. SCHOOL OF MINES

AT

FREYBERG, SAXONY.

This celebrated school is one of the richest mining districts of Saxony, and the proximity of the mines permits an easy combination of practice with theory. Its first object is to furnish educated young men for the corps of mines of the kingdom, but it also admits strangers to its courses at a trifling expense for their instruction, the pupils boarding in the town.

General government. The school of mines is under the immediate government of the directory of mines (oberbergamt,) and is thus a branch of the ministry of finance. The professors form a board for the execution of the general regulations, and one of them is specially charged by the directory with the superintendence of the instruction of discipline.

Admission. Applications for free admission to the institution are made to the directory of mines, and must be accompanied by certificates that the applicant is between sixteen and twenty-three years of age, is of good moral character, in sound health, writes German correctly, and understands the grammar of the language; has made some proficiency in geography and history, can read easy Latin authors, is acquainted with arithmetic, the elements of geometry, and has made a beginning in drawing. If he understands the French or English language, it is a recommendation. The testimonials must be handed between the months of January and June, and the directory decide which of the applicants may present themselves for examination before the professors of the school. Those found qualified in all the courses enter, and others may, in particular cases, be allowed to join the classes, undergoing subsequently an examination in the studies in which they were defective. According to an edict of the German diet, in regard to the attendance of foreigners upon the scholastic institutions of any of the German states, strangers must apply to the minister of finance for permission to attend the school and present a testimonial of character and proficiency, and the written expression of their parents' wish that they should attend the school. Admission is, however, freely granted. Those pupils who are in part, or entirely, supported by the goverment, are divided into two classes. The first division includes the regular students, called beneficiaries (beneficianten,) who pass through a course of four years at the school, and become candidates for the corps of mines; the other is composed of those who enter for places not requiring more than one or two years of study, or who have passed a superior examination for admission, but can not enter as regular students, in consequence of the want of a vacancy in the corps. Besides these there are two other divisions, namely, Saxons, who pay their own expenses at the school, and foreigners. These different divisions are distinguished by characteristic differences in the uniform which they wear. The gratuitously educated students come under an obligation at entering, in event of leaving the service of the government, to refund the pay which they may have received, and to pay the cost of their tuition. The regular pupils receive a pay proportioned in general to the length of time which they have been in the school. The first class receives from twenty-two to thirty dollars per annum; the second, from fifteen to twenty-two; the third, from seven to fifteen. The fourth class receive only the compensation to which they may be entitled for their work in the mines.

Instruction. The courses of instruction are divided into those which are to be pursued by all the pupils, or general, and those which depend upon the branch to which they intend devoting themselves, or special. The first consist of elementary, higher, and applied or mixed mathematics, mechanics and the machinery of mines, general, analytical, and special or technical chemistry, physics, drawing, general and topographical, of shades, shadows, and perspective, and of mining implements, of mining and metallurgic machines and constructions, oryctognosy (mineralogy,)

geognosy (geology,) crystallography the art of mining, metallurgy, civil engineering, mining jurisprudence and correspondence, the French language. The second or special courses consist of the surveying of mines and land surveying, the keeping of books, registers, &c., of fossil geology, for those who are intended as miners, and of the examination of minerals, and analytical chemistry, with special reference to the ores of Saxony, for those who are to serve at the furnaces.

These courses are pursued by the regular students according to the following plan:—The first year is devoted to elementary mathematics, to physics, to geognosy, to general and topographical drawing, to French, and to general practical operations of mining and metallurgy. All these pupils are allowed at certain times to be present in the mines and at the furnaces, under the charge of miners and smeltors, who act as instructors, and who report at the end of the year upon the character of their pupils.

During the second year the courses pursued are—higher mathematics, general chemistry, mineralogy, with practical exercises, crystallography, the art of mining, civil engineering, drawing, French, practical mining, and geological exercises.

After this year the student determines whether he will devote himself to mining or metallurgy, and receives special instruction accordingly.

The general courses of the third year are—applied mathematics, the art of mining, analytical chemistry, metallurgy, technical chemistry, drawing, practical exercises in mining and metallurgy, geology, with practical exercises, and fossil geology.

The courses of the fourth year are—machinery of mines, theory and practice, mining jurisprudence, examination of minerals, analytical chemistry, and practical exercises of mining and metallurgy. During this year, the pupils who intend devoting themselves specially to mining attend solely to practice in that branch, and thus also with the metallurgists. The particular operation in which they engage is regulated by the lectures, that the practice of each operation may be acquired at the same time with its theory.

In relation to the amount of study to be pursued, the government pupils are divided into three classes, those who aim at entire qualification for the corps, and who, on graduating at the school, go to the university for one year, and those who intend to connect themselves with the department of metallurgy.

Among the apparatus for carrying out these courses is an admirable collection of models of machines and of mines. The collection of minerals and geological specimens is large, and besides that of the school, the students have the use of the cabinet of the celebrated Werner, which is kept detached from the other as a memorial of that great man. The library and reading-room, the collection of physical and chemical apparatus, and the arrangements for the study of analytical chemistry, and the assay of minerals and ores, are all suitable to their several objects. The course of assaying with the blow-pipe has become quite celebrated.

The lectures are continued from October to July, with holidays of from one to two weeks at Christmas, Easter, and Whitsuntide. During the summer vacations, the regular pupils make excursions into the other mining districts of Saxony, and even into foreign countries, for their improvement in mining, geology, &c., and are expected to keep a journal of their tours. The short vacations are employed at the school in practical exercises and in literary compositions, unless leave of absence is obtained. There is also one day of each week on which there are no lessons, (Monday,) to allow the pupils to take part both in the mining and smelting operations of the district of Freyberg.

There are eight professors and five teachers attached to the school, among whom the different departments are divided according to the following plan, in which the number of lectures per week is also noted:—One professor has charge of the three departments of general and technical chemistry and of metallurgy, lecturing on the first, five hours; on the second, three hours; and on the third, three hours. The professor of theoretical and practical mineralogy lectures on the theory for students of the first and second courses, each three times a week; gives a repetition of one hour, and practical exercises two hours per week. The professor of geology and crystallography lectures on the first, five hours, and on the second, two hours per week. The professor of physics and fossil geology lectures on the first, four hours, and on the second, two hours per week. The professor

of the elementary and higher mathematics gives instruction in the first, four hours, and in the second, two hours per week. The professor of mining jurisprudence and correspondence gives two lessons per week to each of his two classes. Mixed mathematics, mining machinery, and general surveying, are under one professor, who teaches the first and second, four hours, and the third two hours per week. Mining surveying is taught by a surveyor of the corps two hours per week. Drawing and civil architecture by an instructor, the former, six hours, and the latter, three hours per week. Registry is taught by a superintendent of mines. The assay of minerals by an overviewer, five hours per week. The teacher of French gives four hours of instruction per week.

The subjects are in general taught by lectures, combined with interrogation after each lecture, and, when the courses admit, with practical exercises. The pupils are expected to write out a fair copy of their notes, and to keep a journal of their practical exercises; these are from time to time, with the essays which they are directed to write, submitted to the professors, and are presented at the examinations. The subject of each recitation, the character of the pupils' answers, and of the exercises, drawings, and journals, are reported to the directory of mines by the professors. At the close of each of the four years there is an examination of the students in the several branches, and they are classified according to its results, and the estimate of their work during the year. Students who do not pass satisfactorily, remain an additional year in the same class, after which, if they are not found proficient, they are dismissed. These remarks apply of course only to the regular students. There are three prizes for proficiency in the upper classes, and two in the fourth, varying in amount from two up to twenty florins, (eighty cents to eight dollars.)

Graduation. Graduates of the school are candidates for the corps of mines, and receive the pay of this grade until appointed in the corps. Permission may be obtained to go to a university for one year, after graduating, in which case the candidate, on his return to duty, must show satisfactory certificates of study and conduct. This study of one year at a university is essential to certain situations in the corps, and hence is expected from those who intend to have the whole career open before them.

Discipline. The discipline of the school is regulated by laws emanating from the directory of mines, and which are very minute. All the pupils without distinction, are subject to these regulations. The means of repressive discipline consist of admonitions of various grades, report to the directory, mention in the report to the king, obligatory work in the mines, deprivation of pay, and dismission.

This school, from the character of its officers, government, instruction, and location, offers great inducements to students who wish to become adepts in the principles of mining and metallurgy, and the sciences introductory to them.

VIII. NORMAL SCHOOL

FOR THE TRAINING OF PAROCHIAL SCHOOLMASTERS,

AT BATTERSEA, ENGLAND.

THE Battersea Training Establishment is the most interesting institution in England for the professional education of teachers. It was founded in 1839, by James Phillips Kay* (now Sir James Kay Shuttleworth), Secretary of the Committee of Council on Education, and E. C. Tufnel, Esq., Assistant Poor-Law Commissioner, with two distinguishing objects:—

1. To give an example of normal education for schoolmasters, comprising the formation of character, the development of the intelligence, appropriate technical instruction, and the acquisition of method and practical skill in conducting an elementary school.

2. To illustrate the truth that, without violating the rights of conscience, masters trained in a spirit of Christian charity, and instructed in the discipline and doctrines of the Church, might be employed in the mixed schools necessarily connected with public establishments, and in which children of persons of all shades of religious opinion are assembled.

It was founded as a private enterprise, and at an expense of $12,000 to the individuals named, in the hope that it might be employed, if the experiment should prove successful, by the Government, in supplying teachers for schools of industry for pauper children, like those at Norwood, Manchester, Liverpool, and elsewhere; for reformatory institutions for juvenile criminals; for "ragged schools" for neglected and vagrant children in large cities; and for schools of royal foundation at dock-yards and in men-of-war. The original constitution impressed upon the normal school was conceived in this view. But, in 1843, the institution, having proved successful, and it being no longer convenient for its founders personally to superintend its operations, was transferred to the management of the National Society, for the purpose of being also instrumental in spreading a truly Christian civilization through the masses of the people in manufacturing districts. In announcing this fact, the founders, in their Report in 1843, remark:—

Our personal experience had made us early acquainted with the absence of a growth in the spiritual and intellectual life of the masses, corresponding with the vast material prosperity of the manufacturing districts.

We had witnessed the failure of efforts to found a scheme of combined education on the emancipation of infants from the slavery into which the necessities and ignorance of their parents, and the intensity of commercial competition, had sold them.

To arrest the progress of degeneracy toward materialism and sensuality, appeared to us to be the task most worthy of citizens in a nation threatened by corruption from the consequences of ignorance and excessive labor among her lower orders.

It is impossible that the legislature should, year after year, receive and publish such accounts of the condition of the people as are contained in the Reports

* Mr. Kay in 1843 assumed the name of Shuttleworth, in consequence of receiving a legacy from a person of that name; and in 1849 was knighted by the queen, for his services to the cause of elementary instruction.

of the Hand-loom Weavers' Commission, or of the Commission on the Employment of Women and Children, or that on the Dwellings of the Poor and on the Sanitary Condition of Large Towns, without resolving to confer on the poor some great reward of patience, by offering national security for their future welfare.

These considerations have a general relation, but the state of the manufacturing poor is that which awakens the greatest apprehension. The labor which they undergo is excessive, and they sacrifice their wives and infants to the claims of their poverty, and to the demands of the intense competition of trade. Almost every thing around them tends to materialize and inflame them.

They are assembled in masses,—they are exposed to the physical evils arising from the neglect of sanitary precautions, and to the moral contamination of towns,—they are accustomed to combine in trades-unions and political associations,—they are more accessible by agitators, and more readily excited by them.

The time for inquiry into their condition is past, the period for the interference of a sagacious national forethought is at hand. We therefore felt that the imminent risks attending this condition of the manufacturing poor established the largest claim on an institution founded to educate Christian teachers for the people.

No material change has been made in the plan of the school in consequence of this transfer of management, or enlargement of the design; and the history of its establishment and original constitution will therefore be both appropriate and profitable to an understanding of its present operations. The following account is drawn from the "*First and Second Reports on the Training School at Battersea, to the Poor-Law Commissioners*," published in a volume entitled "Reports on the Training of Pauper Children. 1841."

The training of pauper children in a workhouse or district school cannot be successful unless the teacher be moved by Christian charity to the work of rearing in religion and industry the outcast and orphan children of our rural and city population. The difficulty of redeeming by education the mischief wrought in generations of a vicious parentage, can be estimated only by those who know how degenerate these children are.

The pauper children assembled at Norwood, from the garrets, cellars, and wretched rooms of alleys and courts in the dense parts of London, are often sent thither in a low stage of destitution, covered only with rags and vermin; often the victims of chronic disease; almost universally stunted in their growth; and sometimes emaciated with want. The low-browed and inexpressive physiognomy or malign aspect of the boys is a true index to the mental darkness, the stubborn tempers, the hopeless spirits, and the vicious habits on which the master has to work. He needs no small support from Christian faith and charity for the successful prosecution of such a labor; and no quality can compensate for the want of that spirit of self-sacrifice and tender concern for the well-being of these children, without which their instruction would be any thing but a labor of love. A baker, or a shoemaker, or a shop apprentice, or commercial clerk, cannot be expected to be imbued with this spirit, during a residence of six months in the neighborhood of a model-school, if he has not imbibed it previously at its source.

The men who undertake this work should not set about it in the spirit of hirelings, taking the speediest means to procure a maintenance with the least amount of trouble. A commercial country will always offer irresistible temptations to desert such a profession, to those to whom the annual stipend is the chief if not sole motive to exertion. The outcast must remain neglected, if there be no principle which, even in the midst of a commercial people, will enable men to devote themselves to this vocation from higher motives than the mere love of money.

Experience of the motives by which the class of schoolmasters now plying their trade in this country are commonly actuated, is a graver source of want of

confidence in their ability to engage in this labor, than the absence of skill in their profession. A great number of them undertake these duties either because they are incapacitated by age or infirmity for any other, or because they have failed in all other attempts to procure a livelihood, or because, in the absence of well-qualified competitors, the least amount of exertion and talent enables the most indolent schoolmasters to present average claims on public confidence and support. Rare indeed are the examples in which skill and principle are combined in the agents employed in this most important sphere of national self-government. Other men will not enable you to restore the children of vagabonds and criminals to society, purged of the taint of their parents' vices, and prepared to perform their duties as useful citizens in an humble sphere.

The peculiarities of the character and condition of the pauper children demand the use of appropriate means for their improvement. The general principles on which the education of children of all classes should be conducted are doubtless fundamentally the same; but for each class specific modifications are requisite, not only in the methods, but in the matter of instruction.

The discipline, management, and methods of instruction in elementary schools for the poor, differ widely from those which ought to characterize schools for the middle or upper classes of society. The instruction of the blind, of the deaf and dumb, of criminals, of paupers, and of children in towns and in rural districts, renders necessary the use of a variety of distinct methods in order to attain the desired end.

The peculiarity of the pauper child's condition is, that his parents, either from misfortune, or indolence, or vice, have sunk into destitution. In many instances children descend from generations of paupers. They have been born in the worst purlieus of a great city, or in the most wretched hovels on the parish waste. They have suffered privation of every kind. Perhaps they have wandered about the country in beggary, or have been taught the arts of petty thieving in the towns. They have lived with brutal and cruel men and women, and have suffered from their caprice and mismanagement. They have seen much of vice and wretchedness, and have known neither comfort, kindness, nor virtue.

If they are sent very young to the work-house, their entire training in religious knowledge, and in all the habits of life, devolves on the schoolmaster. If they come under his care at a later period, his task is difficult in proportion to the vicious propensities he has to encounter.

The children to whose improvement Pestalozzi devoted his life were of a similar class,—equally ignorant, and perhaps equally demoralized, in consequence of the internal discords attendant on the revolutionary wars which, at the period when his labors commenced, had left Switzerland in ruin.

The class of children which De Fellenberg placed under the charge of Vehrli at Hofwyl were in like manner picked up on the roads of the canton—they were the outcasts of Berne.

These circumstances are among the motives which led us to a careful examination of the schools of industry and normal schools of the cantons of Switzerland. These schools are more or less under the influence of the lessons which Pestalozzi and De Fellenberg have taught that country. They differ in some important particulars from those which exist in England, and the experience of Switzerland in this peculiar department of elementary instruction appears pre-eminently worthy of attention.

These orphan and normal schools of Switzerland, which have paid the deference due to the lessons of Pestalozzi and De Fellenberg, are remarkable for the gentleness and simplicity of the intercourse between the scholar and his master. The formation of character is always kept in mind as the great aim of education. The intelligence is enlightened, in order that it may inform the conscience, and that the conscience, looking forth through this intelligence, may behold a wider sphere of duty, and have at its command a greater capacity for action. The capacity for action is determined by the cultivation of habits appropriate to the duties of the station which the child must occupy.

Among the laboring class, no habit is more essential to virtuous conduct than that of steady and persevering labor. Manual skill connects the intelligence

with the brute force with which we are endued. The instruction in elementary schools should be so conducted as not only to assist the laborer in acquiring mechanical dexterity, but in bringing his intelligence to aid the labors of his hands, whether by a knowledge of the principles of form or numbers, or of the properties of natural objects, and the nature of the phenomena by which his labors are likely to be affected. In a commercial country, it is pre-eminently important to give him such an acquaintance with geography as may stimulate enterprise at home, or may tend to swell the stream of colonization which is daily extending the dominion of British commerce and civilization. Labor which brings the sweat upon the brows requires relaxation, and the child should therefore learn to repose from toil among innocent enjoyments, and to avoid those vicious indulgences which waste the laborer's strength, rob his house of comfort, and must sooner or later be the source of sorrow. There is a dignity in the lot of man in every sphere, if it be not cast away. The honor and the joy of successful toil should fill the laborer's songs in his hour of repose. From religion man learns that all the artificial distinctions of society are as nothing before that God who searcheth the heart. Religion, therefore, raises the laborer to the highest dignity of human existence, the knowledge of the will and the enjoyment of the favor of God. Instructed by religion, the laborer knows how in daily toil he fulfills the duties and satisfies the moral and natural necessities of his existence, while the outward garb of mortality is gradually wearing off, and the spirit preparing for emancipation.

An education guided by the principles described in this brief sketch, appears to us appropriate to the preparation of the outcast and orphan children for the great work of a Christian's life. * * *

That which seemed most important was the preparation of a class of teachers, who would cheerfully devote themselves, and, with anxious and tender solicitude, to rear these children, abandoned by all natural sympathies, as a wise and affectionate parent would prepare them for the duties of life.

To so grave a task as an attempt to devise the means of training these teachers, it was necessary to bring a patient and humble spirit, in order that the results of experience in this department might be examined, and that none that were useful might be hastily thrown aside. Our examination of the Continental schools was undertaken with this view. A visit was made to Holland at two successive periods, on the last of which we took one of Dr. Kay's most experienced schoolmasters with us, in order that he might improve himself by an examination of the methods of instruction in the Dutch schools, all the most remarkable of which were minutely inspected. A visit has been paid to Prussia and Saxony, in which several of the chief schools have been examined with a similar design. Two visits were paid to Paris, in which the normal school at Versailles, the Maison Mère, and Novitiate of the Brothers of the Order of the Christian Doctrine, and a great number of the elementary schools of Paris and the vicinity, were examined. The normal school at Dijon was especially recommended to our attention by M. Cousin and M. Villemain, and we spent a day in that school. Our attention was directed with peculiar interest to the schools of Switzerland, in the examination of which we spent several weeks uninterruptedly. During this period we daily inspected one or more schools, and conversed with the authorities of the several cantons, with the directors of the normal schools, and with individuals distinguished by their knowledge of the science of elementary instruction. The occasional leave of absence from our home duties which you have kindly granted us in the last three years respectively, was mainly solicited with the view, and devoted to the purpose, of examining the method of instruction adopted in the schools for the poorer classes on the Continent.

This report is not intended to convey to you the results of our inquiries. It may suffice to describe the chief places visited, and the objects to which our attention was directed, in order that you may know the sources whence we have derived the information by which our subsequent labors have been guided. We entered Switzerland by the Jura, descending at Geneva, and, having obtained the sanction of the authorities, were accompanied by some members of the council in our visit to the schools of the town and neighborhood. Thence we proceeded to the Canton de Vaud, inspecting certain rural schools, and the schools of the towns on the borders of the lake, on our way to Lausanne. Here

we spent two days, in company with M. Gauthey, the director of the normal school of the canton, whose valuable report has been translated by Sir John Boileau, our fellow-traveler in this part of our journey.

At Lausanne we attended the lectures, and examined the classes in the normal school and the town schools, and enjoyed much useful and instructive conversation with M. Gauthey, who appeared eminently well qualified for his important labors.

At Fribourg we spent some time in the convent of the Capuchin friars, where we found the venerable Père Girard officiating at a religious festival, but he belongs to the Dominican order. The Père Girard has a European reputation among those who have labored to raise the elementary instruction of the poorer classes, consequent on his pious labors among the poor of Fribourg; and the success of his schools appeared to us chiefly attributable,—first, to the skill and assiduity with which the monitors had been instructed in the evening by the father and his assistants, by which they had been raised to the level of the pupil teachers of Holland; and secondly, to the skillful manner in which Père Girard and his assistants had infused a moral lesson into every incident of the instruction, and had bent the whole force of their minds to the formation of the characters of the children. It was, at the period of our visit, the intention of Père Girard to publish a series of works of elementary instruction at Paris, for which we have since waited in vain.

At Berne, we spent much time in conversation with M. De Fellenberg, at Hofwyl. We visited his great establishment for education there, as well as the normal school at Munchen Buchsee, in which visit we were accompanied by M. De Fellenberg. What we learned from the conversation of this patriotic and high-minded man we cannot find space here to say. His words are better read in the establishments which he has founded, and which he superintends, and in the influence which his example and his precepts have had on the rest of Switzerland, and on other parts of Europe. The town schools of Berne and other parts of the canton merited, and received our attention.

At Lucerne we carefully examined the normal and orphan schools. Thence we proceeded through Schweitz, with the intention of visiting the colony of the Linth, in Glarus, but failed, from the state of the mountain roads. Crossing the Lake of Zurich at Rapperschwyl, we successively visited St. Gall and Appenzell, examining some of the most interesting orphan schools in the mountains, particularly one kept by a pupil of De Fellenberg at Teuffen, the normal school at Gais (Kruisi, the director of which is a pupil of Pestalozzi), and the orphan school of M. Zeltveger at Appenzell.

Descending from the mountains, we crossed the lake to Constance, where we found Vehrli, who had many years conducted the poor-school of De Fellenberg at Hofwyl, now in charge of the normal school of the canton of Thurgovia, in a large mansion once connected with the convent of Kruitzlingen. Here we spent two days in constant communication with Vehrli and his pupils, in the examination of his classes, and deriving from him much information respecting his labors. From Constance we traveled to Zurich, where we carefully examined the normal and model schools, both at that time considerably shaken by the recent revolution.

At Lenzberg we had much useful conversation with the director of the normal school of the canton of Aargovia; thence we traveled to Basle, where we visited the orphan house of the town, and also that at Beuggen, as well as other schools of repute.

We have ventured to give this sketch of our journey in Switzerland, as some apology for the strength of the opinion we have formed on the necessity which exists for the establishment of a training school for the teachers of pauper children in this country. Our inquiries were not confined to this object; but both here, at Paris, in Holland, and in Germany, we bought every book which we thought might be useful in our future labors; and in every canton we were careful to collect all the laws relating to education, the regulations of the normal and elementary schools, and the by-laws by which these institutions were governed.

In the orphan schools which have emanated from Pestalozzi and De Fellenberg, we found the type which has assisted us in our subsequent labors. In

walking with M. De Fellenberg through Hofwyl, we listened to the precepts which we think most applicable to the education of the pauper class. In the normal school of the canton of Thurgovia, and in the orphan schools of St. Gall and Appenzell, we found the development of those principles so far successful as to assure us of their practical utility. * * *

We were anxious that a work of such importance should be undertaken by the authorities most competent to carry it into execution successfully, and we painfully felt how inadequate our own resources and experience were for the management of such an experiment; but after various inquiries, which were attended with few encouraging results, we thought that as a last resort we should not incur the charge of presumption, if, in private and unaided, we endeavored to work out the first steps of the establishment of an institution for the training of teachers, which we hoped might afterward be intrusted to abler hands. We determined, therefore, to devote a certain portion of our own means to this object, believing that when the scheme of the institution was sufficiently mature to enable us to speak of results rather than of anticipations, the well-being of 50,000 pauper children would plead its own cause with the government and the public, so as to secure the future prosperity of the establishment.

The task proposed was, to reconcile a simplicity of life not remote from the habits of the humbler classes, with such proficiency in intellectual attainments, such a knowledge of method, and such skill in the art of teaching, as would enable the pupils selected to become efficient masters of elementary schools. We hoped to inspire them with a large sympathy for their own class; to implant in their minds the thought that their chief honor would be to aid in rescuing that class from the misery of ignorance and its attendant vices; to wean them from the influence of that personal competition in a commercial society which leads to sordid aims; to place before them the unsatisfied want of the uneasy and distressed multitude; and to breathe into them the charity which seeks to heal its mental and moral diseases.

We were led to select premises at Battersea, chiefly on account of the very frank and cordial welcome with which the suggestion of our plans was received by the Hon. and Rev. Robert Eden, the vicar of Battersea. Mr. Eden offered the use of his village schools in aid of the training school, as the sphere in which the pupils might obtain a practical acquaintance with the art of instruction. He also undertook to superintend the training school in all that related to religion.

We therefore chose a spacious manor-house close to the Thames, surrounded by a garden of five acres. This house was altered and divided so as to afford a good separate residence to Dr. Kay,* who undertook to superintend the progress of the establishment for a limited period, within which it was hoped that the principles on which the training school was to be conducted would be so far developed as to be in course of prosperous execution, and not likely to perish by being confided to other hands.

In the month of January, 1840, the class-rooms were fitted up with desks on the plan described on the minutes of the Committee of Council, and we furnished the school-house. About the beginning of February some boys were removed from the School of Industry at Norwood, whose conduct had given us confidence in their characters, and who had made a certain proficiency in the elementary instruction of that school.

These boys were chiefly orphans, of little more than thirteen years of age, intended to form a class of apprentices. These apprentices would be bound from the age of fourteen to that of twenty-one, to pursue, under the guidance and direction of the Poor-Law Commission, the vocation of assistant teachers in elementary schools. For this purpose they were to receive instruction at least three years in the training school, and to be employed as pupil teachers for two years at least in the Battersea village school during three hours of every day.

At the termination of this probationary period (if they were able satisfactorily to pass a certain examination) they were to receive a certificate, and to be employed as assistant teachers, under the guidance of experienced and well-conducted masters, in some of the schools of industry for pauper children. They were at

* For which he paid half the rent and taxes, in addition to his share of the expenses of the school.

this period to be rewarded with a certain remuneration, increasing from year to year, and secured to them by the form of the indenture.

If they were unable to satisfy the examiners of their proficiency in every department of elementary instruction, and thus failed in obtaining their certificate, they would continue to receive instruction at Battersea until they had acquired the requisite accomplishments.

The number of pupil teachers of this class has been gradually increased, during the period which has since elapsed, to twenty-four. But it seemed essential to the success of the school that the numbers should increase slowly. Its existence was disclosed only to the immediate circles of our acquaintance, by whom some boys were sent to the school, besides those whom we supported at our own expense. For the clothing, board and lodging, and education of each of these boys, who were confided to our care by certain of our friends, we consented to receive £20 per annum toward the general expenses of the schools.

Besides the class of pupil teachers, we consented to receive young men, to remain at least one year in the establishment, either recommended by our personal friends, or to be trained for the schools of gentlemen with whom we were acquainted. These young men have generally been from twenty to thirty years of age.

The course of instruction, and the nature of the discipline adopted for the training of these young men, will be described in detail. This class now amounts to nine, a number accumulated only by very gradual accessions, as we were by no means desirous to attract many students until our plans were more mature, and the instruments of our labor were tried and approved.

The domestic arrangements were conducted with great simplicity, because it was desirable that the pupils should be prepared for a life of self-denial. A sphere of great usefulness might require the labors of a man ready to live among the peasantry on their own level,—to mingle with them in their habitations,—to partake their frugal or even coarse meals,—and to seem their equal only, though their instructor and guide. It was desirable, therefore, that the diet should be as frugal as was consistent with constant activity of mind, and some hours of steady and vigorous labor, and that it should not pamper the appetite by its quality or its variety.

The whole household-work was committed to the charge of the boys and young men; and for this purpose the duties of each were appointed every fortnight, in order that they might be equally shared by all. The young men above twenty years of age did not aid in the scouring of the floors and stairs, nor clean the shoes, grates, and yards, nor assist in the serving and waiting at meals, the preparation of vegetables and other garden-stuff for the cook. But the making of beds and all other domestic duty was a common lot; and the young men acted as superintendents of the other work.

This was performed with cheerfulness, though it was some time before the requisite skill was attained; and perfect order and cleanliness have been found among the habits most difficult to secure. The pupils and students were carefully informed, that these arrangements were intended to prepare them for the discharge of serious duties in an humble sphere, and to nerve their minds for the trials and vicissitudes of life.

The masters partook the same diet as the pupils, sitting in the center of the room, and assisting in the carving. They encouraged familiar conversation (avoiding the extremes of levity or seriousness) at the meals, but on equal terms with their scholars, with the exception only of the respect involuntarily paid them.

After a short time a cow was bought, and committed to the charge of one of the elder boys. Three pigs were afterward added to the stock, then three goats, and subsequently poultry and a second cow. These animals were all fed and tended, and the cows were daily milked, by the pupil teachers. It seemed important that they should learn to tend animals with care and gentleness; that they should understand the habits and the mode of managing these particular animals, because the schoolmaster in a rural parish often has a common or forest-right of pasture for his cow, and a forest-run for his pig or goat, and might thus, with a little skill, be provided with the means of healthful occupation in his hours of leisure, and of providing for the comfort of his family.

Moreover, such employments were deemed important, as giving the pupils, by actual experience, some knowledge of a peasant's life, and, therefore, truer and closer sympathy with his lot. They would be able to render their teaching instructive, by adapting it to the actual condition and associations of those to whom it would be addressed. They would be in less danger of despising the laborer's daily toil in comparison with intellectual pursuits, and of being led by their own attainments to form a false estimate of their position in relation to the class to which they belonged, and which they were destined to instruct. The teacher of the peasant's child occupies, as it were, the father's place, in the performance of duties from which the father is separated by his daily toil, and unhappily, at present, by his want of knowledge and skill. But the schoolmaster ought to be prepared in thought and feeling to do the peasant-father's duty, by having sentiments in common with him, and among these an honest pride in the labor of his hands, in his strength, his manual skill, his robust health, and the manly vigor of his body and mind.

At first, four hours were devoted every day to labor in the garden. The whole school rose at half past five. The household-work occupied the pupil teachers altogether, and the students partially, till a quarter to seven o'clock. At a quarter to seven they marched into the garden, and worked till a quarter to eight, when they were summoned to prayers. They then marched to the tool-house, deposited their implements, washed, and assembled at prayers at eight o'clock. At half past eight they breakfasted. From nine to twelve they were in school. They worked at the garden from twelve to one, when they dined. They resumed their labor in the garden at two, and returned to their classes at three, where they were engaged till five, when they worked another hour in the garden. At six they supped, and spent from seven to nine in their classes. At nine, evening prayers were read, and immediately afterward they retired to rest. * * *

In these labors the pupils and students rapidly gained strength. They almost all soon wore the hue of health. Their food was frugal, and they returned to it with appetites which were not easily satisfied. The most delicate soon lost all their ailments. * * *

The gymnastic frame and the horizontal and parallel bars were not erected until the constitutional and muscular powers of the pupils and students had been invigorated by labor. After a few months' daily work in the garden, the drill was substituted for garden-work during one hour daily. The marching exercise and extension movements were practiced for several weeks; then the gymnastic apparatus was erected, and the drill and gymnastic exercise succeeded each other on alternate evenings. The knowledge of the marching exercise is very useful in enabling a teacher to secure precision and order in the movements of the classes, or of his entire school, and to pay a due regard to the carriage of each child. A slouching gait is at least a sign of vulgarity, if it be not a proof of careless habits—of an inattention to the decencies and proprieties of life, which in other matters occasion discomfort in the laborer's household. Habits of cleanliness, punctuality, and promptitude are not very compatible with indolence, nor with that careless lounging which frequently squanders not only the laborer's time, but his means, and leads his awkward steps to the village tavern. In giving the child an erect and manly gait, a firm and regular step, precision and rapidity in his movements, promptitude in obedience to commands, and particularly neatness in his apparel and person, we are insensibly laying the foundation of moral habits, most intimately connected with the personal comfort and the happiness of the future laborer's family. We are giving a practical moral lesson, perhaps more powerful than the precepts which are inculcated by words. Those who are accustomed to the management of large schools know of how much importance such lessons are to the establishment of that order and quiet which is the characteristic of the Dutch schools, and which is essential to great success in large schools.

The gymnastic exercises were intended, in like manner, to prepare the teachers to superintend the exercises and amusements of the school play-ground; to instruct the children systematically in those graduated trials of strength, activity, and adroitness, by which the muscles are developed and the frame is prepared

for sustaining prolonged or sudden efforts. The play-ground of the school is so important a means of separating the children from the vicious companions and evil example of the street or lane, and of prolonging the moral influence of the master over the habits and thoughts of his scholars, that expedients which increase its attractions are important, and especially those which enable the master to mingle with his scholars usefully and cheerfully. The schools of the Canton de Vaud are generally furnished with the proper apparatus for this purpose, and we frequently observed it in France and Germany.

The physical training of our charge was not confined to these labors and exercises. Occasionally Dr. Kay accompanied them in long walking excursions into the country, in which they spent the whole day in visiting some distant school, or remarkable building connected with historical associations, or some scene replete with other forms of instruction. In those excursions their habits of observation were cultivated, their attention was directed to what was most remarkable, and to such facts and objects as might have escaped observation from their comparative obscurity. Their strength was taxed by the length of the excursion, as far as was deemed prudent; and after their return home they were requested to write an account of what they had seen, in order to afford evidence of the nature of the impressions which the excursion had produced.

Such excursions usefully interrupted the ordinary routine of the school, and afforded a pleasing variety in the intercourse between ourselves and the teachers and pupils. They spurred the physical activity of the students, and taught them habits of endurance, as they seldom returned without being considerably fatigued.

Such excursions are common to the best normal schools of Switzerland. It is very evident to the educators of Switzerland that to neglect to take their pupils forth to read the great truths left on record on every side of them in the extraordinary features of that country, would betray an indifference to nature, and to its influence on the development of the human intelligence, proving that the educator had most limited views of his mission, and of the means by which its high purposes were to be accomplished.

The great natural records of Switzerland, and its historical recollections, abound with subjects for instructive commentary, of which the professors of the normal schools avail themselves in their autumnal excursions with their pupils. The natural features of the country; its drainage, soils, agriculture; the causes which have affected the settlement of its inhabitants and its institutions; the circumstances which have assisted in the formation of the national character, and have thus made the history of their country, are more clearly apprehended by lessons gathered in the presence of facts typical of other facts scattered over hill and valley. England is so rich in historical recollections, and in the monuments by which the former periods of her history are linked with the present time, that it would seem to be a not unimportant duty of the educator to avail himself of such facts as lie within the range of his observation, in order that the historical knowledge of his scholar may be associated with these records, marking the progress of civilization in his native country. Few schools are placed beyond the reach of such means of instruction. Where they do not exist, the country must present some natural features worthy of being perused. These should not be neglected. In book-learning there is always a danger that the thing signified may not be discerned through the sign. The child may acquire words instead of thoughts. To have a clear and earnest conviction of the reality of the things signified, the object of the child's instruction should as frequently as possible be brought under its eye. Thus, Pestalozzi was careful to devise lessons on objects in which, by actual contact with the sense, the children were led to discern qualities which they afterward described in words. Such lessons have no meaning to persons who are satisfied with instruction by rote.

The excursions of the directors of the Swiss normal schools also serve the purpose of breaking for a time an almost conventual seclusion, which forms a characteristic of establishments in which the education of the habits, as well as the instruction of the intelligence, is kept in view. These excursions in Switzerland extend to several days, and even longer, in schools of the more wealthy classes. The pupils are thus thrown in contact with actual society; their resources are taxed by the incidents of each day; their moral qualities are some-

times tried, and they obtain a glimpse of the perspective of their future life. It is not only important in this way to know what the condition of society is before the pupil is required to enter it, but it is also necessary to keep constantly before his eye the end and aim of education—that it is a preparation for the duties of his future life, and to understand in what respect each department of his studies is adapted to prepare him for the actual performance of those duties. For each class of society there is an appropriate education. The normal schools of Switzerland are founded on this principle. None are admitted who are not devoted to the vocation of masters of elementary schools. The three or four years of their residence in the school are considered all too short for a complete preparation for these functions. The time, therefore, is consumed in appropriate studies, care being taken that these studies are so conducted as to discipline and develop the intelligence; to form habits of thought and action; and to inspire the pupil with principles on which he may repose in the discharge of his duties.

Among these studies and objects, the actual condition of the laboring class, its necessities, resources, and intelligence, form a most important element. The teachers go forth to observe for themselves; they come back to receive further instruction from their master. They are led to anticipate their own relations to the commune or parish in which their future school will be placed. They are prepared by instruction to fulfill certain of the communal duties which may usefully devolve upon them; such as registrar, precentor, or leader of the church choir, and clerk to the associations of the village. They receive familiar expositions of the law affecting the fulfillment of these duties.

The benefits derived from these arrangements are great; not only in furnishing these rural communes with men competent to the discharge of their duties, but the anticipations of future utility, and the conviction that their present studies infold the germ of their future life, give an interest to their pursuits, which it would be difficult to communicate, if the sense of their importance were more vague and indistinct.

To this end, in the excursions from Battersea we have been careful to enter the schools on our route, and lessons have been given on the duties attaching to the offices which may be properly discharged by a village schoolmaster, in connection with his duty of instructing the young.

This general sketch may suffice to give an idea of the external relations of the life of a student in the training school, with the important exception of that portion of his time devoted to the acquirement of a practical knowledge of the duties of a schoolmaster in the village school. This may be more conveniently considered in connection with the intellectual pursuits of the school. We now proceed to regard the school as a *household*, and to give a brief sketch of its familiar relations.

The most obvious truth lay at the threshold—a family can only subsist harmoniously by mutual love confidence, and respect. We did not seek to put the tutors into situations of inaccessible authority, but to place them in the parental seat, to receive the willing respect and obedience of their pupils, and to act as the elder brothers of the young men. The residence of one of us for a certain period, in near connection with them, appeared necessary to give that tone to the familiar intercourse which would enable the tutors to conduct the instruction, and to maintain the discipline, so as to be at once the friends and guides of their charge.

It was desirable that the tutors should reside in the house. They rose at the same hours with the scholars (except when prevented by sickness), and superintended more or less the general routine. Since the numbers have become greater, and the duties more laborious, it has been found necessary that the superintendence of the periods of labor should be committed to each tutor alternately. They have set the example in working, frequently giving assistance in the severest labor, or that which was least attractive.

In the autumn, some extensive alterations of the premises were to a large extent effected by the assistance of the entire school. The tutors not only superintended, but assisted in the work. Mr. Tate contributed his mechanical knowledge, and Mr. Horne assisted in the execution of the details. In the cheerful industry displayed on this and on other similar occasions, we have witnessed

with satisfaction one of the best fruits of the discipline of the school. The conceit of the pedagogue is not likely to arise among either students or masters who cheerfully handle the trowel, the saw, or carry mortar in a hod to the top of the building; such simplicity of life is not very consistent with that vanity which occasions insincerity. But freedom from this vice is essential to that harmonious interchange of kind offices and mutual respect which we were anxious to preserve.

The diet of the household is simple. The fruits and vegetables of the garden afford the chief variety, without luxury. The teachers sit in the midst of their scholars. The familiar intercourse of the meals is intended to be a means of cultivating kindly affections, and of insuring that the example of the master shall insensibly form the habits of the scholar. Every day confirms the growing importance of these arrangements.

It has been an object of especial care that the morning and evening prayers should be conducted with solemnity. A hall has been prepared for this service, which is conducted at seven o'clock every morning in that place. A passage of Scripture having been read, a portion of a psalm is chanted, or they sing a hymn; and prayers follow, generally from the family selection prepared by the Bishop of London. The evening service is conducted in a similar manner. The solemnity of the music, which is performed in four parts, is an important means of rendering the family devotion impressive. We trust that the benefits derived from these services may not be transient, but that the masters reared in this school will remember the household devotions, and will maintain in their own dwellings and schools the family rite with equal care.

Quiet has been enjoined on the pupils in retiring to rest.

The Sunday has been partially occupied by its appropriate studies. The services of the church have been attended morning and evening; and, besides a certain period devoted to the study of the formularies, the evening has been spent in writing out from memory a copious abstract of one of the sermons. At eight o'clock these compositions have been read and commented upon in the presence of the whole school; and a most useful opportunity has been afforded for religious instruction, besides the daily instruction in the Bible. Mr. Eden has likewise attended the school on Friday, and examined the classes in their acquaintance with the Holy Scriptures and formularies of the church. The religious department, generally, is under his superintendence.

The household and external life of the school are so interwoven with the lessons, that it becomes necessary to consider some of their details together, before the intellectual instruction is separately treated.

With pupils and students alike, it was found necessary to commence at an early stage of instruction, and to furnish them with the humblest elements of knowledge. The time which has elapsed since the school has opened ought, therefore, to be regarded as a preparatory period, similar to that which, in Germany, is spent from the time of leaving the primary school to sixteen, the period of entering the normal school, in what is called a preparatory training school.

As such preparatory schools do not exist in this country, we had no alternative. We selected the boys of the most promising character, and determined to wade through the period of preparation, and ultimately to create a preparatory class in the school itself. Our design was to examine the pupils of this class at the end of the first year, and to grant to such of them as gave proof of a certain degree of proficiency a certificate as *Candidates* of the training school. At the end of the second year's course of instruction, it is intended that a second examination shall occur, in which proficients may obtain the certificate of *Scholar;* and at the close of the ordinary course, in the third year, another examination is to be held, in which the certificate of *Master* will be conferred on those who have attained a certain rank intellectually, and who support their claims by a correct moral deportment.

Training schools, developed on this design, would therefore consist of—

1. Preparatory classes of students and pupils. 2. A class of Candidates. 3. A class of Scholars. And some students, who had obtained the certificate of Master, might remain in the school in preparation for special duties as the Mas-

ters of important *district schools*, or as Tutors in other training schools. These students would constitute—4. A class of Masters.

As soon as the attainments of the students and pupils appeared to warrant the experiment, an hour was daily appropriated to examination by means of questions written on the board before the class, the replies to which were worked on paper, in silence, in the presence of one of the tutors. This hour is, on successive days of the week, appropriated to different subjects, viz.: grammar, etymology, arithmetic, mensuration, algebra, mechanics, geography, and biblical knowledge. The examination papers are then carefully examined by the tutor to whose department they belong, in order that the value of the reply to each question may be determined in reference to mean numbers, 3, 4, 5, and 6. These mean numbers are used to express the comparative difficulty of every question, and the greatest merit of each reply is expressed by the numbers 6, 8, and 10 and 12 respectively, the lowest degree of merit being indicated by 1.

The sum of the numbers thus attached to each answer is entered in the examination-book, opposite to the name of each pupil. These numbers are added up at the end of the week, and reduced to an average by dividing them by the number of days of examination which have occurred in the week. In a similar manner, at the end of the month, the sum of the weekly averages is, for the sake of convenience, reduced by dividing them by four; and a convenient number is thus obtained, expressing the intellectual progress of each boy. These numbers are not published in the school, but are reserved as an element by which we may be enabled to award the certificates of Candidate, Scholar, and Master.

The examination for the quarterly certificates will necessarily also include the inspection of the writing, drawings, abstracts, and compositions. Oral examination will be required to ascertain the degree of promptitude and ease in expression of each pupil. They will likewise be required to give demonstrations of problems in arithmetic, algebra, and mechanics, on the blackboard; to describe the geography of a district in the form of a lecture, and to conduct a class before us, ere we award the certificates.

The examination of the pupils will gradually rise in importance, and the quarterly examinations will be marked by a progressive character, leading to the three chief examinations for the certificates of Candidate, Scholar, and Master, which will be distinguished from each other, both as respects the nature and number of the acquirements, and by the degree of proficiency required in some branches which will be common to the three periods of study.

In another department of registration we have thought it important to avoid certain errors of principle to which such registers appear to be liable. We have been anxious to have a record of some parts of moral conduct connected with habits formed in the school, but we have not attempted to register *moral merit*. Such registers are at best very difficult to keep. They occasion rivalry, and often hypocrisy. On this account we did not deem it advisable to require that they should be kept; but it was important that we should be informed of certain errors interfering with the formation of habits of punctuality, industry, cleanliness, order, and subordination; and registers were devised for noting deviations from propriety in these respects. First, a *time-book* is directed to be kept, in which the observance of the hour of rising, and of the successive periods marked in the routine of the school is noted, in order that any general cause of aberration may meet the eye at once. Secondly, one book is kept by the superintendents appointed from among the students to inspect the *household work above stairs*, another in relation to the *household work below stairs*, and a third by the tutor having charge of *out-door labor*. In these books the duties assigned to each pupil are entered opposite to his name. The superintendent, at the expiration of the period allotted to the work, marks in columns under each of the following heads,—Subordination, Industry, Cleanliness, Order,—the extent of deviation from propriety of conduct by numbers varying from 1 to 4.

The register of punctuality in classes is kept by writing opposite to each pupil's name the number of minutes which elapse after the proper period before he enters the class. The sum of the numbers recorded in these books denotes the extent of errors in habits and manners into which any of the pupils fall, and directs our attention to the fact. Such records would, in connection with the re-

sults of the examinations, enable us to determine whether, in reference to each period, a certificate of *Candidate, Scholar*, or *Master*, of the *first, second*, or *third* degree, should be granted.

The reports of the superintendents are presented to Dr. Kay immediately after morning prayers. The record is read in the presence of the school, and any appeal against the entry heard. At this period the relation which the entire discipline holds to the future pursuits of the pupils is from time to time made familiar to them by simple expositions of the principles by which it is regulated. * * *

This is the *household life* of the school. Brief hints only of the principles which have determined and regulated the preparatory course can find a place in the remarks we have to offer on the preparatory course.

The students have been stimulated in their application by a constant sense of the practical utility of their intellectual labors. After morning prayers, they are from day to day reminded of the connection between their present and future pursuits, and informed how every part of the discipline and study has a direct relation to the duties of a schoolmaster. The conviction thus created becomes a powerful incentive to exertion, which might be wanting if those studies were selected only because they were important as a discipline of the mind.

The sense of practical utility seems as important to the earnestness of the student as the lively conviction attending object teaching in the early and simplest form of elementary instruction. In the earliest steps an acquaintance with the real is necessary to lively conceptions of truth, and at a later period a sense of the value of knowledge resulting from *experience* inspires the strongest conviction of the dignity and importance of all truth, where its immediate practical utility is not obvious.

Far, therefore, from fearing that the sense of the practical utility of these studies will lead the students to measure the value of all truth by a low standard, their pursuits have been regulated by the conviction, that the most certain method of attaining a strong sense of the value of truths, not readily applicable to immediate use, is to ascertain by experience the importance of those which can be readily measured by the standard of practical utility. Thus we approach the conception of the momentum of a planet moving in its orbit, from ascertaining the momentum of bodies whose weight and velocity we can measure by the simplest observations. From the level of the experience of the practical utility of certain common truths, the mind gradually ascends to the more abstract, whose importance hence becomes more easily apparent, though their present application is not obvious, and in this way the thoughts most safely approach the most difficult abstractions.

In the humble pursuits of the preparatory course, a lively sense of the utility of their studies has likewise been maintained by the method of instruction adopted. Nothing has been taught *dogmatically*, but every thing by the combination of the simplest elements, i. e. the course which a discoverer must have trod has been followed, and the way in which truths have been ascertained pointed out by a synthetical demonstration of each successive step. The labor of the previous analysis of the subject is the duty of the teacher, and is thus removed from the child.

Having ascertained what the pupil knows, the teacher endeavors to lead him by gentle and easy steps from the known to the unknown. The instruction, in the whole preparatory course, is chiefly oral, and is illustrated, as much as possible, by appeals to nature, and by demonstrations. Books are not resorted to until the teacher is convinced that the mind of his pupil is in a state of healthful activity; that there has been awakened in him a lively interest in truth, and that he has become acquainted practically with the inductive method of acquiring knowledge. At this stage the rules, the principles of which have been orally communicated, and with whose application he is familiar, are committed to memory from books, to serve as a means of recalling more readily the knowledge and skill thus attained. This course is Pestalozzian, and, it will be perceived, is the reverse of the method usually followed, which consists in giving the pupil the rule first. Experience, however, has confirmed us in the superiority of the plan we have pursued. Sometimes a book, as for example a work on Physical Geography, is put into his hands, in order that it may be carefully read, and that the

student may prepare himself to give before the class a verbal abstract of the chapter selected for this purpose, and to answer such questions as may be proposed to him, either by the tutor or by his fellows. During the preparatory course exercises of this kind have not been so numerous as they will be in the more advanced stages of instruction. Until habits of attention and steady application had been formed, it seemed undesirable to allow to the pupils hours for self-sustained study, or voluntary occupation. Constant superintendence is necessary to the formation of correct habits, in these and in all other respects, in the preparatory course. The entire day is, therefore, occupied with a succession of engagements in household work and out-door labor, devotional exercises, meals, and instruction. Recreation is sought in change of employment. These changes afford such pleasure, and the sense of utility and duty is so constantly maintained, that recreation in the ordinary sense is not needed. Leisure from such occupations is never sought excepting to write a letter to a friend, or occasionally to visit some near relative. The pupils all present an air of cheerfulness. They proceed from one lesson to another, and to their several occupations, with an elasticity of mind which affords the best proof that the mental and physical effects of the training are auspicious.

In the early steps toward the formation of correct habits, it is necessary that (until the power of self-guidance is obtained) the pupil should be constantly under the eye of a master, not disposed to exercise authority so much as to give assistance and advice. Before the habit of self-direction is formed, it is therefore pernicious to leave much time at the disposal of the pupil. Proper intellectual and moral aims must be inspired, and the pupil must attain a knowledge of the mode of employing his time with skill, usefully, and under the guidance of right motives, ere he can be properly left to the spontaneous suggestions of his own mind. Here, therefore, the moral and the intellectual training are in the closest harmony. The formation of correct habits, and the growth of right sentiments, ought to precede such confidence in the pupil's powers of self-direction, as is implied in leaving him either much time unoccupied, or in which his labors are not under the immediate superintendence of his teacher.

In the preparatory course, therefore, the whole time is employed under superintendence, but toward the close of the course a gradual trial of the pupil's powers of self-guidance is commenced; first, by intrusting him with certain studies unassisted by the teacher. Those who zealously and successfully employ their time will, by degrees, be intrusted with a greater period for self-sustained intellectual or physical exertion. Further evidence of the existence of the proper qualities will lead to a more liberal confidence, until habits of application and the power of pursuing their studies successfully, and without assistance, are attained.

The subjects of the preparatory course were strictly rudimental. It will be found that the knowledge obtained in the elementary schools now in existence is a very meager preparation for the studies of a training school for teachers. Until the elementary schools are improved, it will be found necessary to go to the very roots of all knowledge, and to rearrange such knowledge as the pupils have attained, in harmony with the principles on which they must ultimately communicate it to others. Many of our pupils enter the school with the broadest provincial dialect, scarcely able to read with fluency and precision, much less with ease and expression. Some were ill furnished with the commonest rules of arithmetic, and wrote clumsily and slowly.

They have been made acquainted with the *phonic* method of teaching to read practiced in Germany. Their defects of pronunciation have been corrected to a large extent by the adoption of this method, and by means of deliberate and emphatic syllabic reading, in a well-sustained and correct tone. The principles on which the *laut* or *phonic* method depends have been explained at considerable length as a part of the course of lessons on method.

We have deemed it of paramount importance that they should acquire a thorough knowledge of the elements and structure of the English language. The lessons in reading were in the first place made the means of leading them to an examination of the structure of sentences, and practical oral lessons were given on grammar and etymology according to the method pursued by Mr. Wood in the Edinburgh Sessional School. The results of these exercises were tested by

the lessons of dictation and of composition which accompanied the early stages of this course, and by which a timely sense of the utility of a knowledge of grammatical construction and of the etymological relations of words was developed. As soon as this feeling was created, the oral instruction in grammar assumed a more positive form. The theory on which the rules were founded was explained, and the several laws, when well understood, were dictated in the least exceptionable formulæ, and were written out and committed to memory. In this way they proceeded through the whole of the theory and rules of grammar before they were intrusted with any book on the subject, lest they should depend for their knowledge on a mere effort of the memory to retain a formula not well understood.

At each stage of their advance, corresponding exercises were resorted to, in order to familiarize them with the application of the rules.

When they had in this way passed through the ordinary course of grammatical instruction, they were intrusted with books to enable them to give the last degree of precision to their conceptions.

In etymology the lessons were in like manner practical and oral. They were first derived from the reading-lessons of the day, and applied to the exercises and examinations accompanying the course, and, after a certain progress had been made, their further advance was insured by systematic lessons from books.

A course of reading in English literature, by which the taste may be refined by an acquaintance with the best models of style, and with those authors whose works have exercised the most beneficial influence on the mind of this nation, has necessarily been postponed to another part of the course. It, however, forms one of the most important elements in the conception of the objects to be attained in a training school, that the teacher should be inspired with a discriminating but earnest admiration for those gifts of great minds to English literature which are alike the property of the peasant and the peer; national treasures which are among the most legitimate sources of national feelings.

Those who have had close intercourse with the laboring classes well know with what difficulty they comprehend words not of a Saxon origin, and how frequently addresses to them are unintelligible from the continual use of terms of a Latin or Greek derivation; yet the daily language of the middling and upper classes abounds with such words—many of the formularies of our church are full of them, and hardly a sermon is preached which does not in every page contain numerous examples of their use. Phrases of this sort are so naturalized in the language of the educated classes, that entirely to omit them has the appearance of pedantry and baldness, and even disgusts persons of taste and refinement. Therefore, in addressing a mixed congregation, it seems impossible to avoid using them, and the only mode of meeting the inconvenience alluded to is to instruct the humbler classes in their meaning. The method we have adopted for this purpose has been copied from that first introduced in the Edinburgh Sessional Schools; every compound word is analyzed, and the separate meaning of each member pointed out, so that, at present, there are few words in the English language which our pupils cannot thoroughly comprehend, and from their acquaintance with the common roots and principles of etymology, the new compound terms, which the demands of civilization are daily introducing, are almost immediately understood by them. We believe that there are few acquirements more conducive to clearness of thought, or that can be more usefully introduced into common schools, than a thorough knowledge of the English language, and that the absence of it gives power to the illiterate teacher and demagogue, and deprives the lettered man of his just influence.

Similar remarks might be extended to style. It is equally obvious that the educated use sentences of a construction presenting difficulties to the vulgar which are frequently almost insurmountable. It is, therefore, not only necessary that the meaning of words should be taught on a logical system in our elementary schools, but that the children should be made familiar with extracts from our best authors on subjects suited to their capacity. It cannot be permitted to remain the opprobrium of this country that its greatest minds have bequeathed their thoughts to the nation in a style at once pure and simple, but still inaccessible to the intelligence of the great body of the people.

In *writing*, they were trained, as soon as the various books could be prepared, according to the method* of Mulhauser, which was translated and placed in the hands of the teachers for that purpose.

In like manner, in *arithmetic*, it has been deemed desirable to put them in possession of the pre-eminently synthetical method of Pestalozzi. As soon as the requisite tables and series of lessons, analyzed to the simplest elements, could be procured, the principles on which complex numerical combinations rest were rendered familiar to them, by leading the pupils through the earlier course of Pestalozzi's lessons on numbers, from simple unity to compound fractional quantities; connecting with them the series of exercises in mental arithmetic which they are so well calculated to introduce and to illustrate. The use of such a method dispels the gloom which might attend the most expert use of the common rules of arithmetic, and which commonly afford the pupil little light to guide his steps off the beaten path illuminated by the rule.

While these lessons have been in progress, the common rules of arithmetic have been examined by the light of this method. Their theory has been explained, and by constant practice the pupils have been led to acquire expertness in them, as well as to pursue the common principles on which they rest, and to ascertain the practical range within which each rule ought to be employed. The ordinary lessons on mental arithmetic have taken their place in the course of instruction separately from the peculiar rules which belong to Pestalozzi's series.

These lessons also prepared the pupils for proceeding at an early period in a similar manner with the elements of algebra, and with practical lessons in mensuration and land-surveying.

These last subjects were considered of peculiar importance, as comprising one of the most useful industrial developments of a knowledge of the laws of number. Unless, in elementary schools, the instruction proceed beyond the knowledge of abstract rules, to their actual application to the practical necessities of life, the scholar will have little interest in his studies, because he will not perceive their importance; and moreover, when he leaves the school, they will be of little use, because he has not learned to apply his knowledge to any purpose. On this account, boys who have been educated in common elementary schools, are frequently found, in a few years after they have left, to have forgotten the greater part even of the slender amount of knowledge they had acquired.

The use of arithmetic to the carpenter, the builder, the laborer, and artisan, ought to be developed by teaching mensuration and land-surveying in elementary schools. If the scholars do not remain long enough to attain so high a range, the same principle should be applied to every step of their progress. The practical application of the simplest rules should be shown by familiar examples. As soon as the child can count, he should be made to count objects, such as money, the figures on the face of a clock, &c. When he can add, he should have before him shop-bills, accounts of the expenditure of earnings, accounts of wages. In every arithmetical rule similar useful exercises are a part of the art of a teacher, whose sincere desire is to fit his pupil for the application of his knowledge to the duties of life, the preparation for which should be always suggested to the pupil's mind as a powerful incentive to action. These future duties should be always placed in a cheering and hopeful point of view. The mere repetition of a table of numbers has less of education in it than a drill in the *balance-step*.

Practical instruction in the *book-keeping* necessary for the management of the household was for these reasons given to those who acted as stewards; accounts were kept of the seeds, manure, and garden produce, &c., as preparatory to a course of book-keeping, which will follow.

† The recently rapid development of the industry and commerce of this

* See a description of Mulhauser's method, p. 250.

† It is somewhat remarkable that since this paragraph was written I should have received a letter from one of the principal directors of a railway company, in which he informs me that the frequent recurrence of accidents had induced the directors of the railway to make a careful examination into their causes. The directors rose from this inquiry convinced that these accidents were, to a large extent, attributable to the ignorance of the men whom they had been obliged to

country by machinery, creates a want for well-instructed mechanics, which, in the present state of education, it will be difficult adequately to supply. The steam-engines which drain our coal-fields and mineral veins and beds; which whirl along every railroad; which toil on the surface of every river, and issue from every estuary, are committed to the charge of men of some practical skill, but of mean education. The mental resources of the classes who are practically intrusted with the guidance of this great development of national power should not be left uncultivated. This new force has grown rapidly, in consequence of the genius of the people, and the natural resources of this island, and in spite of their ignorance. But our supremacy at sea, and our manufacturing and commercial prosperity (inseparable elements), depend on the successful progress of those arts by which our present position has been attained.

On this account, we have deemed inseparable from the education of a schoolmaster a knowledge of the *elements of mechanics* and of the laws of heat, sufficient to enable him to explain the structure of the various kinds of steam-engines in use in this country. This instruction has proved one of the chief features even of the preparatory course, as we feared that some of the young men might leave the establishment as soon as they had obtained the certificates of candidates, and we were unwilling that they should go forth without some knowledge at least of one of the chief elements of our national prosperity, or altogether without power to make the workingman acquainted with the great agent which has had more influence on the destiny of the working classes than any other single fact in our history, and which is probably destined to work still greater changes.

Knowledge and national prosperity are here in strict alliance. Not only do the arts of peace—the success of our trade—our power to compete with foreign rivals—our safety on our railways and in our steam-ships—depend on the spread of this knowledge, but the future defense of this country from foreign aggression can only result from our being superior to every nation in those arts. The schoolmaster is an agent despised at present, but whose importance for the attainment of this end will, by the results of a few years, be placed in bold relief before the public.

The tutor to whom the duty of communicating to the pupils a knowledge of the laws of motion, of the mechanical powers and contrivances, and of the laws of heat, was committed, was selected because he was a self-educated man, and was willing to avail himself of the more popular methods of demonstration, and to postpone the application of his valuable and extensive mathematical acquirements. By his assistance the pupils and students have been led through a series of demonstrations of mechanical combinations, until they were prepared to consider the several parts of the steam-engine, first separately, and in their successive developments and applications, and they are at present acquainted with the more complex combinations in the steam-engines now in use, and with the principles involved in their construction and action.

In *geography*, it has been deemed important that the tutors should proceed by a similar method. The lessons on land-surveying have familiarized the pupils with the nature and uses of maps. As one development of the art of drawing, they have been practiced in map-drawing. For this purpose, among other expedients, the walls of one class-room have been prepared with mastic, in order that bold projections of maps might be made on a great scale.

employ as engineers, for the want of better; and to the low habits of these men, who, though they do not subject themselves to dismissal by such a defiance of regulations as to be found "*drunk*," are in the habit of stupefying themselves with dram-drinking! The directors of the company had determined that the proper remedy for these evils was to provide amusement and instruction for their men at night, and application has since been made to Mr. Tate, the tutor in mechanics, &c., in the training school, to afford his assistance in delivering lectures on mechanics to the engineers, stokers, and other servants of the company. A large room has been provided for these purposes, and it is understood to be the intention of the company to draw their servants to this room by such amusements as may be more attractive than the tavern—to excite their attention to subjects of instruction appropriate to their duties by a series of popular lectures—and then to open classes, when they may learn mechanics, and such of the elements of natural science as may be useful to them in their calling.

As a part of the amusements, application was made by one of the directors to Mr. Hullah to open a class like those of the artisans of Paris, and to instruct them in singing on the method of Wilhem.—J. P. Kay.

Physical geography has been deemed the true basis of all instruction in the geography of industry and commerce, which ought to form the chief subject of geographical instruction in elementary schools. The tutor has first endeavored to convince the pupils that nothing which presents itself to the eye in a well-drawn map is to be regarded as accidental; the boldness of the promontories, the deep indenture of the bays, the general bearings of the coast, are all referable to natural laws. In these respects the eastern and western coasts of England are in striking contrast, in appearance, character, and in the circumstances which occasion their peculiarities. The physical geography of England commences with a description of the elevation of the mountain ranges, the different levels, and the drainage of the country. The course, rapidity, and volume of the rivers are referable to the elevation and extent of the country which they drain. From the climate, levels, and drainage, with little further matter, the agricultural tracts of the country may be indicated, and when the great coal-fields and the mineral veins and beds, the depth of the bays and rivers are known, the distribution of the population is found to be in strict relation to certain natural laws. Even the ancient political divisions of the country are, on inspection, found to be in close dependence on its drainage. The counties are river basins, which were the first seats of tribes of population. If any new political distribution were to be made, it would necessarily, in like manner, be affected by some natural law, which it is equally interesting and useful to trace.

Geography, taught in this way, is a constant exercise to the reasoning powers. The pupil is led to trace the mutual dependence of facts, which, in ordinary instruction, are taught as the words of a vocabulary. Geography taught in the ordinary way is as reasonable an acquisition as the catalogue of a museum, which a student might be compelled to learn as a substitute for natural history. A catalogue of towns, rivers, bays, promontories, &c., is even less geography than the well-arranged catalogue of a museum is natural history, because the classification has a logical meaning in the latter case, which is absent in the former.

As a department of geographical instruction, the elements of the use of the globes in connection with nautical astronomy has been cultivated with some diligence.

The outlines only of the history of England have been read, as preparatory to a course of instruction in English history, which is to form one of the studies of the second year. The history of England has been read in the evening as an exercise in the art of reading, and the examinations which have followed have been adapted only to secure general impressions as to the main facts of our history.

Skill in *drawing* was deemed essential to the success of a schoolmaster. Without this art he would be unable to avail himself of the important assistance of the blackboard, on which his demonstrations of the objects of study ought to be delineated. His lessons on the most simple subjects would be wanting demonstrative power, and he would be incapable of proceeding with lessons in mechanics, without skill to delineate the machines of which his lessons treated.

The arts of design have been little cultivated among the workmen of England. Whoever has been accustomed to see the plans of houses and farm buildings, or of public buildings of an humble character from the country, must know the extreme deficiency of our workmen in this application of the art of drawing, where it is closely connected with the comfort of domestic life, and is essential to the skillful performance of public works. The survey now in progress under the Tithe Commissioners affords abundant evidence of the want of skill in map-drawing among the rural surveyors.

The improvement of our machiney for agriculture and manufactures would be in no small degree facilitated, if the art of drawing were a common acquirement among our artisans. Invention is checked by the want of skill in communicating the conception of the inventor, by drawings of all the details of his combination. In all those manufactures of which taste is a principal element, our neighbors, the French, are greatly our superiors, solely, we believe, because the eyes and the hands of all classes are practiced from a very early age in the arts of design. In the elementary schools of Paris, the proficiency of the young pupils in drawing

is very remarkable, and the evening schools are filled with young men and adults of mature or even advanced age, engaged in the diligent cultivation of this art. Last Midsummer, in some of the evening schools of the Brothers of the Christian Doctrine, classes of workmen were questioned as to their employments. One was an *ébéniste*, another a founder, another a clock-maker, another a paper-hanger, another an upholsterer; and each was asked his hours of labor, and his motives for attendance. A single example may serve as a type. A man without his coat, whose muscular arms were bared by rolling his shirt-sleeves up to his shoulders, and who, though well washed and clean, wore the marks of toil on his white, horny hands, was sitting with an admirable copy in crayon of *La Donna della Segiola* before him, which he had nearly completed. He was a man about 45 years of age. He said he had risen at five, and had been at work from six o'clock in the morning until seven o'clock in the evening, with brief intervals for meals; and he had entered the evening class at eight o'clock, to remain there till ten. He had pleasure, he said, in drawing, and that a knowledge of the art greatly improved his skill and taste in masonry. He turned round with a good-humored smile, and added, he could live better on less wages than an Englishman, because his drawing cost him less than beer. Some thousand workingmen attend the adult schools every evening in Paris, and the drawing classes comprise great numbers whose skill would occasion much astonishment in this country. The most difficult engravings of the paintings of the Italian masters are copied in crayon with remarkable skill and accuracy. Complex and exquisitely minute architectural details, such, for example, as perspective views of the Duomo at Milan, or the cathedrals at Rouen or Cologne, are drawn in pen and ink, with singular fidelity. Some were drawing from plaster casts and other models. We found such adult schools in many of the chief towns of France. These schools are the sources of the taste and skill in the decorative arts, and in all manufactures of which taste is a prominent element, and which have made the designs for the calico-printers, the silk and ribbon looms, the papers, &c., &c., of France, so superior in taste to those of this country, notwithstanding the superiority of our manufactories in mechanical combinations.

These considerations lead us to account drawing an important department of elementary education. The manufacturers of Lancashire are well aware how difficult it is, from the neglect of the arts of design among the laborers of this country, to procure any skilled draftsmen to design for the cotton or silk manufacturer. The elevation of the national taste in art can only be procured by the constant cultivation of the mind in relation to the beautiful in form and color, by familiarizing the eye with the best models, the works of great artists, and beautiful natural objects. Skill in drawing from nature results from a careful progress through a well-analyzed series of models. The interests of commerce are so intimately connected with the results to be obtained by this branch of elementary education, that there is little chance that it will much longer suffer the grievous neglect it has hitherto experienced.

The drawing classes at Battersea were first exercised in very simple models, formed of oblong pieces of wood, arranged in a great variety of forms by the master, according to the method observed in the Swiss and German schools. These were drawn in common and in isometrical perspective, the laws of perspective being at the same time carefully explained, and the rules applied in each case to the object which the pupil drew. A very little practice made us aware that a method comprising a more minute analysis of form was necessary to the greatest amount of success. Some inquiries which were pursued in Paris put us in possession of the method invented by M. Dupuis; and a series of his models were purchased and brought over at the close of the autumn, for the purpose of making a careful trial of this method. Considerable difficulty was experienced in procuring the services of an artist to superintend the instruction; but at length the application of this method has been commenced, and is in progress.

The experience of the French inspectors of schools (at an early period after the establishment of the system of inspection) convinced them that, to the perfection of *skill in drawing form*, the practice of drawing from models is necessary. The best copyists frequently, or rather generally, were found to fail in drawing even very simple natural objects on their first trials. In the drawing schools at

Paris, in which the most elaborate engravings were admirably copied, an inspector would discover that the pupils were unable to draw correctly the professor's desk and chair. It became, therefore, evident that the copy could not stand in the place of the natural object. Copying works of art might be essential to one department of skill and taste, but it by no means necessarily gave skill in drawing from nature.

M. Dupuis was an inspector, and, observing this defect, he invented a series of models, ascending from a simple line of wire through various combinations to complex figures. These models are fixed on an instrument, on the level of the eye, and may, by the movement of the instrument, be placed in a varying perspective. By this means the pupil may learn to draw the simplest objects, and proceed by gradual steps through a series of combinations, of an almost insensibly increasing difficulty, until he can draw faithfully any object, however complex. The instrument which holds the object enables the teacher, by varying its position, to give at each lesson a series of demonstrations in perspective, applying the rules to objects of a gradually increasing complexity, until they are understood in their relations to the most difficult combinations. Thus practical skill and theoretical knowledge are in harmony in this instruction. The taste may afterward be cultivated by drawing those works of art best adapted to create a just sense of the beautiful in form and color.

That which a workman first requires is mechanical skill in the art of drawing. Nature itself offers many opportunities to cultivate the taste insensibly; and skill can be acquired only by careful and prolonged practice in the art of drawing from nature. In the more advanced parts of the course, we shall be able to satisfy ourselves as to the best mode of using the skill acquired for the formation of the taste.

In the normal schools at Versailles one year's instruction had sufficed to give the pupils a wonderful facility and skill in drawing from models. Some complicated pneumatic apparatus, consisting of glass, mahogany, brass, and in difficult perspective, was drawn rapidly, and with great truth and skill. It is not, however, our intention to carry the instruction of our pupils in this art further than is necessary for the industrial instruction of their future scholars.

Some of the reasons inducing us to attach much importance to the cultivation of *vocal music* have already been briefly indicated. We regard it as a powerful auxiliary in rendering the devotional services of the household, of the parish church, and of the village school, solemn and impressive. Our experience satisfies us that we by no means over-estimated this advantage, though all the results are not yet obtained which we trust will flow from the right use of these means.

Nor were we indifferent to the cheerfulness diffused in schools by the singing of those melodies which are attractive to children, nor unconscious of the moral power which music has when linked with sentiments which it is the object of education to inspire. We regard school songs as an important means of diffusing a cheerful view of the duties of a laborer's life; of diffusing joy and honest pride over English industry. Therefore, to neglect so powerful a moral agent in elementary education as vocal music, would appear to be unpardonable. We availed ourselves of some arrangements which were at this time in progress, under the superintendence of the Committee of Council, for the introduction of the method* of M. Wilhem, which has been singularly successful in France.

A method which has succeeded in attracting thousands of artisans in Paris from low cabarets and miserable gambling-houses, to the study of a science and the practice of a captivating art, deserves the attention of the public. Mr. Hullah, in adapting the method of Wilhem to English tastes and habits, has both simplified and refined it. He has, moreover, adapted to it a considerable number of old English melodies, of great richness and character, which were fast passing into oblivion, and which may be restored to the place they once held in the affections of the people, being now allied with words expressive of the joys and hopes of a laborer's life, and of the true sources of its dignity and happiness.

We have assisted in the development of this method, being convinced that it may tend to elevate the character of our elementary schools, and that it may

* For a description of Wilhem's method, see p. 275.

be of great use throughout the country in restoring many of our best old English melodies to their popularity, and in improving the character of our vocal music in village churches, through the medium of the parochial schoolmaster and his pupils.

When the preparatory course was sufficiently advanced, a series of lectures on the construction and organization of elementary schools, and on the theory and art of teaching, were commenced. They have resembled those given in the German and Swiss schools under the generic term Pædagogik.

They have treated of the general objects of education, and the means of attaining them. The peculiar aims of elementary education; the structure of school-houses in various parts of Europe; the internal arrangement of the desks, forms, and school apparatus, in reference to different methods of instruction, and the varieties of those methods observed in different countries. The theory of the discipline of schools. Its practice, describing in detail the different expedients resorted to in different countries for the purpose of procuring order, decorum propriety of posture and manner, regularity and precision in movements, and in changes of classes and exercises, and especially the right means of securing the reverence and the love of the children. This last subject naturally connects the consideration of the mechanical and methodic expedients with the consideration of the sources of the schoolmaster's zeal, activity, and influence, on which much has been said. To these subjects have succeeded lectures on the great leading distinctions in the methods of communicating knowledge. When the distinguishing principles had been described, the characteristic features of the several methods were examined *generally*, and certain peculiar applications of each were treated. The application of these methods to each individual branch of instruction was then commenced, and this part of the course has treated of various methods of teaching to read, especially giving a minute description of the *phonic* method. Of methods of teaching to write, giving a special account of the method of Mulhauser. On the application of writing in various methods of instruction Of methods of teaching to draw, giving a detailed account of that of M. Dupuis Of methods of teaching arithmetic, in which the method of Pestalozzi has been carefully explained, and other expedients examined. This brief sketch may indicate the character of the instruction up to the period of this report. Our desire is to anticipate as little as possible, but, on the contrary, to relate only what *has been done*. We have therefore only to add, that the instruction in Pædagogik is in its preparatory stage, and that the course will be pursued, in relation both to the general theory and practice, and to the special application of the theory and practice to the development of the village school, and of the training school, through the whole period of instruction, as that part of the studies of the pupils by which the mutual relations of these studies are revealed, and their future application anticipated.

We regard these lectures, combined with the zealous labor of the Hon. and Rev. Robert Eden, as the chief means by which, aided by the tutors, such a tone of feeling can be maintained as shall prepare the teachers to enter upon their important duties, actuated by motives which will be the best means of insuring their perseverance, and promoting their success.

The Brothers of the Christian Doctrine, who devote their lives a cheerful sacrifice to the education of the poorer classes of France, can be understood best by those who have visited their Novitiate and schools at Paris. From such persons we expect acquiescence when we say, that their example of Christian zeal is worthy of the imitation of Protestants. Three of the brothers of this order are maintained for a sum which is barely the stipend of one teacher of a school of mutual instruction in Paris. Their schools are unquestionably the best at Paris. Their manners are simple, affectionate, and sincere. The children are singularly attached to them. How could it be otherwise, when they perceive that these good men have no other reward on earth for their manifold labors than that of an approving conscience?

The *régime* of the *Novitiate* is one of considerable austerity. They rise at four. They spend an hour in private devotion, which is followed by two hours of religious exercises in their chapel. They breakfast soon afterward, and are in the day schools of Paris at nine. They dine about noon, and continue their

attention to the schools till five. They sup at six, and then many of them are employed in evening schools for the adults from seven to nine, or from eight to ten, when, after prayers, they immediately retire to rest.

No one can enter the schools of the Brothers of the Christian Doctrine without feeling instinctively that he is witnessing a remarkable example of the development of Christian charity.

With such motives should the teachers of elementary schools, and especially those who are called to the arduous duties of training pauper children, go forth to their work. The path of the teacher is strewn with disappointments, if he commence with a mercenary spirit: it is full of encouragement, if he be inspired with the spirit of Christian charity. No skill can compensate adequately for the absence of a pervading religious influence on the character and conduct of the schoolmaster. * * *

The technical instruction in that knowledge which it will be the duty of the pupils to communicate in elementary schools, occupies a much greater portion of the time in the preparatory course than that which will be allotted to such studies in the two subsequent years.

Every month will now bring into greater prominence *instruction, theoretical and practical, in the art of teaching.* The outlines only of a future course of instruction in this most important element of the studies of a training school have been communicated. Some of the principles have been laid down, but the application of these principles to each subject of instruction, and the arrangement of the entire matter of technical knowledge, in accordance with the principles of elementary teaching, is a labor to which a large portion of the future time of the pupils must be devoted.

Those studies which will prepare them for the performance of collateral duties in the village or parish have not been commenced.

The instruction in the management of a garden; in pruning and grafting trees; in the relative qualities of soils, manures, and the rotation of garden crops, is to form a part of the course of instruction, after the certificate of candidate is obtained.

A course on the domestic economy of the poor will be delivered in the same year, which will be followed by another on the means of preserving health, especially with regard to the employments, habits, and wants of the working classes. Some general lectures on the relations of labor and capital will close this course.

From the following extracts from the Report of the Founders of the Institution in 1843, it will be seen that they were induced, after three years' experience, to change one feature of their original plan, and, instead of taking boys of the age of fourteen, to select their candidates for admission from youths who had attained the age of eighteen or twenty years. This change has special reference to teachers designed for large schools in commercial towns and manufacturing districts. They also advise a course of preparatory training, previous to their admission into a Normal School, similar to that pursued in Holland.

In Holland, the elementary schoolmasters of every great town form a society, associated for their common benefit. Their schools are always large, varying in numbers from three to seven hundred, or even a thousand children, who are often assembled in one room. Every master is aided by a certain number of assistants of different ages, and by pupil-teachers.

The course through which a youth passes from a position of distinction, as one of the most successful scholars, to that of master of a school, is obvious. He is apprenticed as a pupil-teacher (an assistant equivalent, in the first stage, to the most superior class of our monitors in England). As pupil-teacher he assists in the instruction of the youngest classes during the day, witnessing and taking part in the general movements of the school, and in the maintenance of discipline and order. He resides with his own family in the city, and before he is admitted apprentice, care is taken to ascertain that he belongs to a well-conducted house

hold, and that he will be reared by his parents in habits of religion and order Every evening all the pupil-teachers of the town are assembled to receive instruction. The society of teachers provides from its own body a succession of instructors, by one of whom, on each night of the week, the pupil-teachers are taught some branch of elementary knowledge necessary to school-keeping. One of the most experienced masters of the town, likewise, gives them lectures on method, and on the art of organizing and conducting a school.

The society of schoolmasters meets from time to time to receive from each of its members an account of the conduct, progress, and qualifications of each pupil-teacher in the town, not only in the evening class, but in the school duties of the day.

On the reputation thus acquired, and preserved, depends the progress of the pupil-teacher in the art of school-keeping. As his experience becomes more mature, and his knowledge increases, he is intrusted with more important matters and higher classes in the school. He undergoes two successive examinations by the Government Inspector, being first admitted candidate and afterward assistant master, and he is then at liberty to complete his course of training by entering the Normal School at *Haarlem*, from which he can obtain the highest certificates of fitness for the duties of his profession.

This appears to us a course of training peculiarly well adapted to the formation of masters for the great schools of large towns, and likewise for supplying these great schools, during the education of the pupil-teacher, with the indispensable aid of a body of assistant masters, without which they must continue to be examples of an economy which can spare nothing adequate to the improvement of the people.

The formation of a body of pupil-teachers in each great town, thus instructed by a society of schoolmasters, is an object worthy of encouragement from the Committee of Council, who might at least provide the fees and charges of apprenticeship, and grant exhibitions for the training of the most successful pupil-teachers in a Normal School at the close of their apprenticeship, even if the Government were indisposed to encounter any of the annual charges incident to the plan.

Few words are requisite to render apparent the difference between the life of a pupil-teacher so trained, and that of a young novice in a Normal School. The familiar life of the parental household, while it exercises a salutary influence on the habits and manners of the young candidate, is not remote from the great scene of exertion in which his future life is to be spent. He is unconsciously prepared by the daily occurrences in his father's family, and by his experience and instruction in the day and evening school, to form a just estimate of the circumstances by which he is surrounded. He is trained from day to day in the management of the artful and corrupt children even of the dregs of the city, and enabled to apply such means as the discipline and instruction of a common school afford, to the improvement of the moral and intellectual condition of the children of the common people. He becomes an agent of civilization, fitted for a peculiar work by habit, and prepared to imbibe during the year or year and a half he may spend in a Normal School those higher maxims of conduct, that more exact knowledge, and those more perfect methods of which it is the proper source. From such a period of training, he returns to his native city, or is sent to some other town, strong in the confidence inspired by his prolonged experience of the peculiar duties he has to perform, either to take a high rank as an assistant master, or to undertake the responsibility of conducting a town school as its chief.

These are the views which have led us to conclude that the admission of *boys* into a Normal School, as distinguished from a *Mother School*, is not a fit preparation for the discharge of the duties of a schoolmaster in a large town.

We have gradually raised the age of admission from 14 to 16, and thence to 18 or 20 years, and we are now of opinion that few or none should be admitted into a Normal School under the latter age.

Besides the reasons already stated why youths under 18 should not be admitted into such a school, there are some arising out of the internal economy of a Normal School of sufficient importance to deserve enumeration.

If youths are admitted, none who have arrived at adult age should be permitted to enter. The youth necessarily enters for a course of training which ex-

tends over several years; the adult student commonly enters for a year and a half or two years. The attainments of all are meager on their admission. In the course of a few years, therefore, the youngest pupils are necessarily at the head of the school in their attainments and skill, which is a source of great discouragement to an adult entering such an establishment, and a dangerous distinction to a youth whose acquirements have suddenly raised him intellectually above all in his sphere of life. The tendencies of such a great disparity in the acquirements appropriate to the two classes of age are obviously injurious. We have experienced the consequences of this disparity as a disturbing force in the training schools, and to counteract these tendencies has required a vigilance and provident care, which has increased our labors and anxieties. Few things have been more pleasing than the readiness with which some of the oldest students who have entered the schools have taken their seats in the humblest positions, and passed with patient perseverance through all the elementary drudgery, though boys have held the most prominent positions in the first class, and have occasionally become their instructors. On the other hand, to check the conceit too frequently engendered by a rapid progress, when attended with such contrasts, we have suggested to the masters, that the humble assiduity of the recently entered adult pupil ought to secure an expressive deference and attention.

The intellectual development of the young pupils is a source of care insignificant in comparison with that attending the *formation of their characters*, and this could be accomplished with greater ease and certainty if they were the sole objects of solicitude. But, as members of an establishment into which adults are admitted in an equality or inferiority of position, the discipline is complicated and the sources of error are increased.

For these reasons, we prefer to admit into a Normal School only students of adult age, reared by religious parents, and concerning whose characters and qualifications the most satisfactory testimonials can be procured. The inquiries preliminary to the admission of a student should in all cases, where it may be practicable, extend to his previous habits and occupations, to the character of the household in which he has resided, and the friendships he has formed. In all cases those young men are to be preferred whose previous pursuits warrant some confidence in their having a predilection for the duties of a teacher of the poor.

Our plans have therefore tended to the introduction of young men of 18 years of age and upward for a training of one year and a half, which we are led to regard as the shortest period which it is desirable they should spend in such a school.

With this explanation of a modification of one feature in their original plan, the Report for 1843 proceeds to discuss the main objects of a Normal School.

The main object of a Normal School is the *formation of the character of the schoolmaster*. This was the primary idea which guided our earliest efforts in the establishment of the Battersea Schools on a basis different from that of any previous example in this country. We have submitted to your lordship the reasons which have led us to modify one of the chief features of our plan, but our convictions adhere with undiminished force to the principle on which the schools were originally founded. They were intended to be an institution in which every object was subservient to the *formation of the character of the schoolmaster*, as an intelligent Christian man entering on the instruction of the poor, with religious devotion to his work. If we propose to change the means, the end we have in view is the same. Compelled by the foregoing considerations to think the course of training we proposed for youths does not prepare them for the charge of large schools in manufacturing towns, we are anxious that the system pursued in Holland should be adopted, as a training preparatory to the examination of the pupil-teachers previously to their admission into a Normal School. Finding that the patrons of students and the friends of the establishment are unable, for the most part, to support a longer training for young men than one year and a half, we are more anxious respecting the investigation of their pre-

vious characters and connections, and more fastidious as to their intellectual qualifications and acquirements.

When circumstances thus combine to prevent the residence of the students in the training school for a longer period than a year and a half, the inquiries as to previous character cannot be conducted with too much care, and *the first month of training should, under any circumstances, be regarded as probationary.*

Under these arrangements, also, the impression produced upon the characters of the students during their residence is of paramount importance.

They are commonly selected from an humble sphere. They are the sons of small tradesmen, of bailiffs, of servants, or of superior mechanics. Few have received any education, except that given in a common parochial school. They read and write very imperfectly; are unable to indite a letter correctly; and are seldom skillful, even in the first four rules of arithmetic. Their biblical knowledge is meager and inaccurate, and all their conceptions, not less on religious than on other subjects, are vague and confused, even when they are not also very limited or erroneous. Their habits have seldom prepared them for the severely regular life of the Normal School, much less for the strenuous effort of attention and application required by the daily routine of instruction. Such concentration of the mind would soon derange the health, if the course of training did not provide moderate daily exercise in the garden, at proper intervals. The mental torpor, which at first is an obstacle to improvement, generally passes away in about three months, and from that period the student makes rapid progress in the studies of the school.

These attainments, humble though they be, might prove dangerous to the character of the student, if his intellectual development were the chief concern of the masters.

How easy it would be for him to form an overweening estimate of his knowledge and ability, must be apparent, when it is remembered that he will measure his learning by the standard of that possessed by his own friends and neighbors. He will find himself suddenly raised by a brief course of training to the position of a teacher and example. If his mind were not thoroughly penetrated by religious principle, or if a presumptuous or mercenary tone had been given to his character, he might go forth to bring discredit upon education, by exhibiting a precocious vanity, an insubordinate spirit, or a selfish ambition. He might become, not the gentle and pious guide of the children of the poor, but a hireling into whose mind had sunk the doubts of the skeptic; in whose heart was the worm of social discontent; and who had changed the docility of ignorance and dullness, for the restless impatience of a vulgar and conceited sciolist.

In the formation of the character of the schoolmaster, the discipline of the training school should be so devised as to prepare him for the modest respectability of his lot. He is to be a Christian teacher, following Him who said, "He that will be my disciple, let him take up his cross." Without the spirit of self-denial, he is nothing. His reward must be in his work. There should be great simplicity in the life of such a man.

Obscure and secluded schools need masters of a contented spirit, to whom the training of the children committed to their charge has charms sufficient to concentrate their thoughts and exertions on the humble sphere in which they live, notwithstanding the privations of a life but little superior to the level of the surrounding peasantry. When the scene of the teacher's exertions is in a neighborhood which brings him into association with the middle and upper classes of society, his emoluments will be greater, and he will be surrounded by temptations which, in the absence of a suitable preparation of mind, might rob him of that humility and gentleness which are among the most necessary qualifications of the teacher of a common school.

In the training school, habits should be formed consistent with the modesty of his future life. On this account, we attach peculiar importance to the discipline which we have established at Battersea. Only one servant, besides a cook, has been kept for the domestic duties of the household. The whole household work, with the exception of the scouring of the floors and cooking, is performed by the students; and they likewise not only milk and clean the cows, feed and tend the pigs, but have charge of the stores, wait upon each other, and cultivate the garden. We cannot too emphatically state our opinion that no portion of this

work could be omitted, without a proportionate injury to that contentment of spirit, without which the character of the student is liable to be overgrown with the errors we have described.

The garden-work also serves other important ends. Some exercise and recreation from the scholastic labors are indispensable. Nevertheless, a large portion of the day cannot be devoted to it, and when three or four hours only can be spared, care should be taken that the whole of this time is occupied by moderate and healthful exertion in the open air. A period of recreation employed according to the discretion of the students would be liable to abuse. It might often be spent in listless sauntering, or in violent exertion. Or if a portion of the day were thus withdrawn from the observation of the masters of the school, it would prove a period in which associations might be formed among the students inconsistent with the discipline; and habits might spring up to counteract the influence of the instruction and admonition of the masters. In so brief a period of training, it is necessary that the entire conduct of the student should be guided by a superior mind.

Not only, by the daily labor of the garden, are the health and morals of the school influenced, but habits are formed consistent with the student's future lot. It is well both for his own health, and for the comfort of his family, that the schoolmaster should know how to grow his garden stuff, and should be satisfied with innocent recreation near his home.

We have also adhered to the frugal diet which we at first selected for the school. Some little variety has been introduced, but we attach great importance to the students being accustomed to a diet so plain and economical, and to arrangements in their dormitories so simple and devoid of luxury, that in after life they will not in an humble school be visited with a sense of privation, when their scanty fare and mean furniture are compared with the more abundant food and comforts of the training school. We have therefore met every rising complaint respecting either the quantity or quality of the food, or the humble accommodation in the dormitories, with explanations of the importance of forming, in the school, habits of frugality, and of the paramount duty of nurturing a patient spirit, to meet the future privations of the life of a teacher of the poor.

Our experience also leads us to attach much importance to simplicity and propriety of dress. For the younger pupils we had, on this account, prepared a plain dark dress of rifle green, and a working dress of fustian cord. As respects the adults, we have felt the importance of checking the slightest tendency to peculiarity of dress, lest it should degenerate into foppery. We have endeavored to impress on the students that the dress and the manners of the master of a school for the poor should be decorous, but that the prudence of his life should likewise find expression in their simplicity. There should be no habit nor external sign of self-indulgence or vanity.

On the other hand, the master is to be prepared for a life of laborious exertion. He must, therefore, form habits of early rising, and of activity and persevering industry. In the winter, before it is light, the household work must be finished, and the school-rooms prepared by the students for the duties of the day. One hour and a half is thus occupied. After this work is accomplished, one class must assemble winter and summer, at a quarter to seven o'clock, for instruction. The day is filled with the claims of duty requiring the constant exertion of mind and body, until, at half past nine, the household retire to rest.

By this laborious and frugal life, economy of management is reconciled with the efficiency both of the moral and intellectual training of the school, and the master goes forth into the world humble, industrious, and instructed.

But into the student's character higher sentiments must enter, if we rightly conceive the mission of the master of a school for the poor. On the religious condition of the household, under the blessing of God, depends the cultivation of that religious feeling, without which the spirit of self-sacrifice cannot take its right place among the motives which ought to form the mainspring of a schoolmaster's activity.

There is a necessity for incessant vigilance in the management of a training school. The principal should be *wise as a serpent*, while the gentleness of his discipline, and his affectionate solicitude for the well-being of his pupils, should encourage the most unreserved communications with him. Much of his leisure

should be devoted to private interviews with the students, and employed in instilling into their minds high principles of action. A cold and repulsive air of authority may preserve the appearance of order, regularity, and submission in the household; but these will prove delusive signs if the principal does not possess the respect and confidence, not to say the affections, of his charge. He should be most accessible, and unwearied in the patience with which he listens to confessions and inquiries. While it is felt to be impossible that he should enter into any compromise with evil, there should be no such severity in his tone of rebuke as to check that confidence which seeks guidance from a superior intelligence. As far as its relation to the principal only is concerned, every fault should be restrained and corrected by a conviction of the pain and anxiety which it causes to an anxious friend, rather than by the fear of a too jealous authority. Thus conscience will gradually be roused by the example of a master, respected for his purity, and loved for his gentleness, and inferior sentiments will be replaced by motives derived from the highest source.

Where so much has to be learned, and where, among other studies, so much religious knowledge must be acquired, there is danger that religion should be regarded chiefly as a subject for the exercise of the intellect. A speculative religious knowledge, without those habits and feelings which are the growth of deeply-seated religious convictions, may be a dangerous acquisition to a teacher of the young. How important, therefore, is it that the religious services of the household should become the means of cultivating a spirit of devotion, and that the religious instruction of the school should be so conducted as not merely to inform the memory, but to master the convictions and to interest the feelings! Religion is not merely to be taught in the school—it must be the element in which the students live.

This religious life is to be nurtured by the example, by the public instruction of the principal, and by his private counsel and admonition; by the religious services of the household; by the personal intercourse of the students, and the habits of private meditation and devotion which they are led to form; by the public worship of the church, and by the acts of charity and self-denial which belong to their future calling.

How important is it that the principal should embody such an example of purity and elevation of character, of gentleness of manners, and of unwearied benevolence, as to increase the power of his teaching, by the respect and conviction which wait upon a consistent life! Into the religious services of the household he should endeavor to inspire such a spirit of devotion as would spread itself through the familiar life, and hallow every season of retirement. The management of the village school affords opportunities for cultivating habits of kindness and patience. The students should be instructed in the organization and conduct of Sunday-schools; they should be trained in the preparation of the voluntary teachers by previous instruction; in the visitation of the absent children; in the management of the clothing and sick clubs and libraries attached to such schools. They should be accustomed to the performance of those parochial duties in which the schoolmaster may lighten the burden of the clergyman. For this purpose, they should learn to keep the accounts of the benefit club. They should instruct and manage the village choir, and should learn to play the organ.

While in attendance on the village school, it is peculiarly important that they should accompany the master in his visits to children detained at home by sickness, and should listen to the words of counsel and comfort which he may then administer; they should also attend him when his duty requires a visit to the parents of some refractory or indolent scholar, and should learn how to secure their aid in the correction of the faults of the child.

Before he leaves the training school, the student should have formed a distinct conception, from precept and practice, how his example, his instruction, and his works of charity and religion, ought to promote the Christian civilization of the community in which he labors.

Turn we again to the contrast of such a picture. Let us suppose a school in which this vigilance in the formation of character is deemed superfluous; or a principal, the guileless simplicity of whose character is not strengthened by the wisdom of experience. A fair outward show of order and industry, and great intellectual development, may, in either case, be consistent with the latent prog-

ress of a rank corruption of manners, mining all beneath. Unless the searching intelligence of the principal is capable of discerning the dispositions of his charge, and anticipating their tendencies, he is unequal to the task of molding the minds of his pupils, by the power of a loftier character and a superior will. In that case, or when the principal deems such vigilance superfluous, and is content with the intellectual labors of his office, leaving the little republic, of which he is the head, to form its own manners, and to create its own standard of principle and action, the catastrophe of a deep ulcerous corruption is not likely to be long delayed.

In either case, it is easy to trace the progress of degeneracy. A school, in which the formation of character is not the chief aim of the masters, must abandon that all-important end to the republic of scholars. When these are selected from the educated and upper ranks of society, the school will derive its code of morals from that prevalent in such classes. When the pupils belong to a very humble class, their characters are liable, under such arrangements, to be compounded of the ignorance, coarseness, and vices of the lowest orders. One pupil, the victim of low vices, or of a vulgar coarseness of thought, escaping the eye of an unsuspicious principal, or unsought for by the vigilance which is expended on the intellectual progress of the school, may corrupt the private intercourse of the students with low buffoonery, profligate jests, and sneers at the self-denying zeal of the humble student; may gradually lead astray one after another of the pupils to clandestine habits, if not to the secret practice of vice. Under such circumstances, the counsels of the principal would gradually become subjects of ridicule. A conspiracy of direct insubordination would be formed. The influence of the superior would barely maintain a fair external appearance of order and respect.

Every master issuing from such a school would become the active agent of a degeneracy of manners, by which the humbler ranks of society would be infected.

The formation of the character is, therefore, the chief aim of a training school, and the principal should be a man of Christian earnestness, of intelligence, of experience, of knowledge of the world, and of the humblest simplicity and purity of manners.

Next to the formation of the character of the pupil is, in our estimation, the general development of, his intelligence. The extent of his attainments, though within a certain range a necessary object of his training, should be subordinate to that mental cultivation, which confers the powers of self-education, and gives the greatest strength to his reflective faculties. On this account, among others, we attach importance to the methods of imparting knowledge pursued in the Normal School. While we have insured that the attainments of the students should be exact, by testing them with searching examinations, repeated at the close of every week, and reiterated lessons on all subjects in which any deficiency was discovered, nothing has been taught by rote. The memory has never been stored, without the exercise of the reason. Nothing has been learned which has not been understood. This very obvious course is too frequently lost sight of in the humbler branches of learning—principles being hidden in rules, defining only their most convenient application; or buried under a heap of facts, united by no intelligible link. To form the character, to develop the intelligence, and to store the mind with the requisite knowledge, these were the objects of the Normal School.

In the village school a new scene of labor developed itself, which has been in progress since the period of our last report, and has now nearly reached its term. If we attach pre-eminent importance to the formation of character as the object of the Normal School, a knowledge of the method of managing an elementary school, and of instructing a class in each branch of elementary knowledge, is the peculiar object of the model-school attached to any training institution. In its proper province as subordinate to the instruction and training in a Normal School, it is difficult to exaggerate the importance to a teacher, of a thorough familiarity with the theory and practice of organizing and conducting common schools. Without this, the most judicious labor in the Normal School may, so far as the future usefulness of the student as a schoolmaster is concerned, be literally wasted. It

is possible to conceive that the character may be formed on the purest model; that the intelligence may have been kept in healthful activity; and that the requisite general and technical instruction may have been acquired, yet without the aptitude to teach; without skill acquired from precept and example; without the habits matured in the discipline of schools; without the methods in which the art of teaching is reduced to technical rules, and the matter of instruction arranged in the most convenient form for elementary scholars, the previous labor wants the link which unites it to its peculiar task. On the other hand, to select from the common drudgery of a handcraft, or from the humble, if not mean pursuits of a petty trade, a young man barely (if indeed at all) instructed in the humblest elements of reading, writing, and arithmetic, and to conceive that a few months' attendance on a model-school can make him acquainted with the theory of its organization, convert him into an adept in its methods, or even rivet upon his stubborn memory any significant part of the technical knowledge of which he has immediate need, is a mistake too shameful to be permitted to survive its universal failure.

When we speak of the necessity of a thorough acquaintance with methods of organizing and teaching in common schools, we mean to *exalt* the importance of previous training of the character, expansion of the intelligence, and sufficient technical instruction. Without this previous preparation, the instruction in the model-school is empirical, and, the luckless wight would have had greater success in his handcraft, than he can hope to enjoy in his school.

For these reasons, among others, the attention of the students has especially of late been directed to the theory of the organization of schools, and to the acquirement of the art of teaching.

The *method of conveying instruction* is peculiarly important in an elementary school, because the scholars receive no learning and little judicious training at home, and are, therefore, dependent for their education on the very limited period of their attendance at school. On this account nothing superfluous should be taught, lest what is necessary be not attained. The want of a fit preparation of the mind of the scholar, and the brevity of his school life, are reasons for adopting the most certain and efficacious means of imparting knowledge, so that this short period may become as profitable as possible. The regularity of the child's attendance, the interest he takes in his learning, and his success, will be promoted by the adoption of means of instruction suited to the state of his faculties and the condition of society from which he is taken. If his progress be obstructed by the obscurity of his master's teaching, and by the absence of that tact which captivates the imagination of children, and rouses the activity of their minds, the scholar will become dull, listless, and untoward; will neglect his learning and his school, and degenerate into an obstinate dunce. The easiest transition in acquirement is in the order of simplicity from the known to the unknown, and it is indispensable to skillful teaching that the matter of instruction should be arranged in a synthetic order, so that all the elements may have to each other the relation of a progressive series from the most simple to the most complex. This arrangement of the matter of instruction requires a previous analysis, which can only be successfully accomplished by the devotion of much time. Such methods are only gradually brought to perfection by experience. The elementary schoolmaster, however highly instructed, can seldom be expected to possess either the necessary leisure or the peculiar analytical talent; and unless this work of arrangement be accomplished for him, he cannot hope, by the technical instruction of the Normal School, to acquire sufficient skill to invent a method by arranging the matter of instruction.

In order, therefore, that he may teach nothing superfluous; that he may convey his instruction in the most skillful manner, and in the order of simplicity, it is necessary that he should become acquainted with a *method* of communicating each branch of knowledge.

This is the more important, because individual teaching is impossible in a common school. Every form of organization, from the monitorial to the simultaneous, includes more or less of collective teaching. The characteristics of skillful collective teaching are the simplicity and precision with which the knowledge is communicated, and the logical arrangement of the matter of instruction. Dif-

fuse, desultory, or unconnected lessons are a waste of time; they leave no permanent traces on the memory; they confuse the minds of children, instead of instructing them and strengthening their faculties.

Certain moral consequences also flow from the adoption of skillful methods of teaching. The relations of regard and respect which ought to exist between the master and his scholars are liable to disturbance, when, from his imperfect skill, their progress in learning is slow, their minds remain inactive, and their exertions are languid and unsuccessful. A school in which the master is inapt, and the scholars are dull, too frequently becomes the scene of a harsher discipline. Inattention must be prevented—indolence quickened—impatience restrained—insubordination and truancy corrected; yet all these are early consequences of the want of skill in the master. To enforce attention and industry, and to secure obedience and decorum, the languid and the listless are too often subjected to the stimulus of coercion, when the chief requisite is method and tact. The master supplies his own deficiencies with the rod; and what he cannot accomplish by skill, he endeavors to attain by the force of authority.

Such a result is not a proper subject of wonder, when the master has received no systematic instruction in method. To leave the student without the aid of *method*, is to subject him to the toil of analysis and invention, when he has neither the time nor the talent to analyze and invent.

The Report of 1843 dwells on the several methods previously noticed in the extracts already made from the Report of 1841, and concludes as follows:

These several *Methods* have now been tested by experience on the most public theater, and have become an important part of the instruction of masters of elementary schools. The Manuals in which they are embodied render their acquisition comparatively easy even to those who do not enjoy the advantage of receiving lessons in the art of teaching by them from adepts. The school of method will place within the reach of the schoolmasters of the metropolis the means of acquiring the requisite skill; and the body of schoolmasters, whom the Normal Schools will annually disseminate, will diffuse them through the country. Every school conducted with complete efficiency by a master trained in a Normal School, will become a model to neighboring schools which have not enjoyed similar advantages. On this account alone, it is important that no student from a Normal School should commence his labors in the country until he has acquired a mastery of the methods of teaching these necessary elements.

In a course of instruction extending over a year and a half, a student ought to spend three hours daily, during six or eight months, in the practice of the art of teaching in the village school. When the course of instruction is necessarily limited to one year, four months should be thus employed, and during the entire period of his training, instruction in method should form an element of the daily routine in the Normal School.

By such means alone can a rational conception of method be attained, and that skill in the art of conducting a school and instructing a class without which all the labors of the Normal School in imparting technical knowledge are wasted, because the student has no power of communicating it to others.

In the Report of 1847, the Inspector, Mr. Moseley, makes the following remarks:

There is one point of view in which we cannot but speak of the labors of this institution with unmingled satisfaction. It stands out honorably distinguished from all others as a place where THE METHODS OF ELEMENTARY INSTRUCTION are recognized as legitimate objects of research, and where TEACHING IS STUDIED AS AN ART.

That shifting, dreamy state of the mind which is associated with mechanical pursuits, such as have usually been the previous pursuits of the students of training institutions, does not readily pass into a close and continuous application of the understanding, any more than, in respect to our bodily health, a state of constant physical exertion gives place quietly to a sedentary life. A laborer is not easily converted into a student. It is not to be done by putting a book be-

fore him. He may sit with that book before him for months, and yet never begin to *learn*.

Such a man requires to be roused from that mental apathy which has grown upon him by the disuse of his faculties, and to be taught the secret of his powers. This is best effected by the direct contact of his own mind with that of a vigorous teacher, and for this reason oral instruction is specially adapted to the business of a training school.

A system which limits itself to this expedient of instruction will probably, however, fail of some important results. The teacher must also be a student. Unless this be the case, the lessons he gives in his school will echo every day more faintly the instructions he received at the college. Each lesson should have had its preparation. However humble the subject, or the class of children to whom it is addressed, there is probably some information to be gathered from books which is applicable to it; and it is in the direction of such applications that lie the legitimate studies of the teacher—studies not less valuable in their influence upon his school than upon himself.

The labor of oral instruction is, however, so great, that to adopt it in respect to ever so small a number of students, supposes the union of several teachers; and thus is obtained that division of the subjects taught among the teachers which enables each *to confine his attention to a particular class of subjects*, and thereby himself to acquire not only that greater knowledge of these subjects, but of the *best means of teaching them*, which is essential to his success.

It is not only, however, because each teacher teaches *better*, that a favorable influence is to be attributed to the labors of various teachers in an institution like this, but because there is an awakening and stimulating power in the rude attacks made by a succession of vigorous teachers—each with a different subject, and an energy concentrated in it—on a sluggish understanding; and in the different impressions they leave upon it.

There are phases in every man's mind which adapt it to receive impressions from one teacher rather than another, as well as from one subject rather than from another. And thus, between one of a succession of teachers and some individual student, there may be established sympathies which no other could have awakened, and there may be commenced a process of instruction in some individual mind, which the united labors of all the rest could not have moved.

If any thing had been wanting to confirm in our minds the favorable opinion which has been earned for it among the friends of education, by the many admirable teachers it *has* sent out, the experience of our examination would have supplied it.

Fifty-four young men were assembled who, originally educated here, had for various periods of from one to seven years been in charge of elementary schools. An opportunity was afforded us of forming the personal acquaintance of these men, and each of them taught in our presence one of the classes of the village school.

The impression we received of them from these efforts was eminently favorable. Nor was this favorable opinion shaken by an examination of the papers written in answer to the questions we proposed to them. Although their course of regular instruction had in many cases long ceased, the knowledge they had acquired had not been lost. It was evident that their education had been of that kind which has a tendency to perfect itself, and that the process of instruction commenced here in their minds had gone on.

XII. SECONDARY EDUCATION

IN

SAXONY.

We are indebted for the following account of the gymnasium or school for secondary instruction in Saxony, mainly, to Dr. Hermann Wimmer, of Dresden. Dr. Wimmer* was educated in the common school, gymnasium, and university of his native country; was trained for a classical teacher in the philological seminary of Hermann and Klotz, at Leipsic, and was for several years professor in the Fitzhum gymnasium or Blochmann college at Dresden, one of the best classical schools in Germany.

The gymnasia of Saxony are partly boarding and partly day schools. The most celebrated of the former at Meissen, Grimma, and Schulpforte, were established at the date of the Reformation by the electors of Saxony on the foundation of the old monasteries or cloisters, the buildings and funds being thus diverted from ecclesiastical to educational purposes. These schools are known as *Fürstenschulen*, or Prince schools, or *Klosterschulen*, or Cloister school, from the circumstances of their foundation. These old boarding gymnasia are called, by Dr. Wimmer, the hearths of classical learning in Germany. The gymnasium of Pforta, (schola Portensis,) was opened for pupils in 1543, the funds of the old monastery having been sequestered by the electoral Prince Maurice, on the advice of Luther, for this purpose. In 1815, the school passed with the province in which it is located into the dominions of Prussia. The foundation yielded, in 1838, a revenue of $30,000, on which one hundred and seventy beneficiaries (*intraners*) were lodged, boarded, and instructed. In most of the boarding gymnasia there are a class of pupils, (*extraners*,) whose tuition is free, but who board, at their own expense, with the professors. Besides the Fursten, or Prince schools, there were in all the large cities, a gymnasia supported by municipal taxation and private tuition, and managed by the municipal authorities. But within the last few years most of the gymnasia have been merged in the burgher or higher elementary school, leaving eight or ten to be aided and controlled by the government, and which are continued as classical schools. These are open day schools, and are situated in the larger cities, where the parents of most of the pupils reside.

Between the Fursten, or strictly boarding schools, and the open or day gymnasia, there are two of a peculiar character—the Thomas school at Leipsic, and the Blochmann-vizthum gymnasium at Dresden. The

* Dr. Wimmer is now (1852) engaged in preparing for the press in Dresden, his observations on "Education and Religion in the United States"—the results of his visit to this country in 1850-51. The work will be sold by B. Westermann & Co., 290 Broadway, New York.

Thomas school is partly a classical and partly a musical institution; more than half of its students form the great vocal choir of the Thomas church, and is celebrated for its performances on Saturday's and Sunday's. Those students called alumni, have their tuition and board free, and in the latter part of their college life earn some money by their occasional singing. A similar musical class exists in connection with other city gymnasia, but the musical instruction is not carried so far. We give a more particular account of the Blochmann institution.

BLOCHMANN-VIZTHUM GYMNASIUM AT DRESDEN.

The Blochmann-vizthum gymnasium combines within itself a classical, and a real or scientific school, and a preparatory school, or progymnasium. It is both a boarding and day school, and partakes of a public and private character, being under the direction of the government authorities as a public school, and supported in part out of funds left by Count Vizthum at the beginning of the 17th century, for the education of children of the Vizthum and other noble families, and for a number of poor boys who are clothed, boarded, and educated as companions of the young nobles to stimulate them by their zeal and diligence.

All the boarding students, about eighty, are distributed into nine rooms. The occupants of a room are under the special care of one of the teachers, who has generally an adjoining dwelling-room. He is interested in their moral and intellectual welfare, is applied to by the teachers who see any thing in their pupils to commend or to blame, and by the parents who wish to hear something about their physical or spiritual health; he gives the allowance of money for buying books, clothes, or whatever they want; briefly, he is the representative of the absent parent, and enjoys usually the respect, confidence, and love of his pupils. They come but occasionally and for a few moments to their room, to get books or something else out of their secretaries, or in stormy days they are allowed to pass a leisure hour there; but the neighboring teacher has no oversight of them, unless he is disturbed in his studies by their noise, and then he gives them to understand, by knocking at the door, that he is at home, which generally suffices to prevent any further interference. The order of the day is exclusively committed to the Inspectors of the day. For every day two professors are intrusted with this responsible office, so that every officer has the ambiguous honor and the tiresome task of sharing with a colleague for one day of the week the command over the whole. On that day he must see that the students rise (at 5 o'clock in the summer, at 6 in the winter,) must be present at the first breakfast, superintend the study hours from $5\frac{3}{4}$ A. M. to 8 P. M. (all study in four adjoining class-rooms,) lead singing and praying in the chapel, keep order before the lessons begin, ascertain whether all the teachers in the nine classes are present before he leaves for his recitation or lodging-room, must be in the garden at the time of second breakfast from $9\frac{3}{4}$ to $10\frac{1}{4}$, in stormy days go over the classes and rooms, and so again froom 11 or 12 till 3, when the lessons commence again and continue till $4\frac{3}{4}$; and again from $5\frac{1}{4}$ till 8 are study hours, in which he must be every where and nowhere, and on Wednesdays and Saturdays he must be the walking or bathing-companion of half the section. At 8 is supper time; at 9, the great mass must go to bed, and only such students of the superior classes as are to be trusted, are permitted to study until 10, when the tired inspectors take their last round through the bedrooms, to ascertain whether all are asleep or are likely to be in good order, and then, unless something extraordinary has happened during the day, satisfied with themselves and their day's work, they retire to their rooms. Except the day scholars, no pupil is allowed to leave the house to make a social visit without a ticket of permission from his special tutor, signed likewise by the director, where the time of leaving is mentioned and the statement of the time of arriving and leaving again is expected from the hand of the visited person.

Besides the three or four study hours, under the superintendence of the two inspectors, which are considered sufficient for the necessary preparation and repetition, the students are bound to be in the garden, walking, running, playing, or exercising in some way. It is in this free time, also, that lessons on the piano, in

singing, gymnastics, fencing, dancing, and riding, are given. Only the last hour of the evening is allowed to the older students for staying in their rooms. In this respect the Vitzthum gymnasium takes the extreme view, and, for aught we know, the practice of studying in the room, adopted by the other colleges, seems to be generally preferable to that of studying in full classes. But it is the authority of the older students, on which the practicability and the success of studying in common rooms, without the inspection of quite as many tutors, chiefly depends, and the character of the institution as well as the demand of rational supervision, seem to have been the causes of an arrangement not sufficiently comfortable to make studying the great pleasure of life, as one might experience in the common rooms of the Fürstenschool, or in the private chambers of students in city gymnasia. There is a conference of the twelve chief teachers on Saturdays, the Director being Chairman and the youngest professor secretary, in which the events of the week are spoken of and disciplinary measures taken. The private teachers have no access but in cases where they are particularly concerned. Every professor has the right of punishing, and the private teachers may apply for it to the inspector. To make use of that painful right, the teacher as such is but rarely forced, oftener in the quality of inspector, and it will be understood, almost never as special tutor. Corporeal punishment is forbidden. The common penalty is deprivation of one of the meals; the highest is imprisonment. It happens in the Blochmann institution, that to malefactors of inveterate habits flogging is applied, but only to those of the two preparatory classes, and by decree of the conference, and in presence of the directors. In the common gymnasia, where professors and students meet with each other only in the recitation rooms, there is less chance of transgressing laws, the law of the class-room being but one, and that every moment impressed upon the mind of the would-be-transgressor by the presence of the law-giver and judge, but habitual indolence and laziness will meet with something more than a sermon on diligence, which would be like casting a brilliant pearl before a swine; a few involuntary study-hours for making a Latin ode appeals better and more successfully to the stubborn heart. It is never too late to mend; hence expulsion from the college is and ought to be a rare case, and such a victim has usually gone, before, through the dark hole called *carcer*, which is known to ninety-nine per cent. of the gymnasiasts more by name than by sight. There is generally speaking, in the German gymnasia, a strict discipline, without any Spartan severity and without Basedow's philanthropical sweetness. Of course, there have been a great many students who never, in their college life, heard a harsh word nor saw a stern look; but others, who are not well prepared, or are inattentive, or noisy, or have written their compositions carelessly, or committed a misdemeanor that comes to the ears of professors, are generally dealt with in good, plain German, and "without gloves," and a repetition may lead, by a long graduation, or rather degradation, to the hole. In the common gymnasia, the professors do not interfere with the private life of the students, unless some charge is brought against them by a citizen.

A gymnasium ordinarily consists of four classes, called Prima, (the highest, or seniors,) Secunda, Tartia, and Quarta, (lowest, or freshman,) and each of these classes are usually divided into two parts, upper and lower. In this institution there are six classes, including the progymnasium.

Pupils are received into the progymnasium at nine or ten years of age, and with the attainments of the elementary period. In this school, which has two classes, they remain until from thirteen to fourteen. Its courses are the following: Bible history, and religion, the German language, the Latin, French, history, arithmetic, knowledge of forms, geography, natural history, drawing, and writing. From the upper class of the progymnasium, the pupils pass to the gymnasium, in which there are four classes. The courses are of religion, Latin, Greek, German language and literature, French, mathematics, history, geography, natural philosophy, natural history, music, and drawing. From the fourth or lowest class of the gymnasium, the pupil who is not intended to go to the university enters the "real gymnasium," or scientific school, in which there are two classes, and the duration of the studies of which is one year less than that of the classical gymnasium. In this the French and English, and the scientific studies, replace the classics, except a portion of Latin, which is still kept up. The courses consist of religion, German language and literature, Latin, French, English, mathematics,

physics, chemistry, natural history, mechanics, history, geography, drawing, and music. The distribution of the time of study in the principal branches agrees entirely with that of the two upper classes of the Royal Real School at Berlin, already described.

The arrangements for the superintendence of the pupils in this institution are, in the main, like those of Pforta. Pupils called inspectors are selected, and superintend their fellows when in the play-ground and at study, and there are two masters always on duty as superintendents. The physical education of the pupils is very well attended to, and the alterations of exercise and study have a very good effect. These alterations will appear by the following order of the day:

The boarders rise at six o'clock, and breakfast at a quarter to seven. From a quarter to seven to a quarter to eight, study under the superintendence of the two teachers on duty. Pupils living out of the house join in this study hour. Prayers. From eight to a quarter to ten, instruction. Quarter to ten to quarter after ten, play in the garden, and a light second breakfast. Quarter after ten to twelve, instruction. Twelve to one, instruction in instrumental and vocal music, gymnastic exercises, dancing, or free to play in the grounds under the charge of the two superintendents. At one, the day scholars leave the institution. Quarter after one to two, dinner. Two to three, play under charge of the inspectors. Three to quarter of five, instruction. On Wednesday and Saturday, walks. Quarter to five to quarter after five, lunch and recreation. Quarter after five to eight, study under charge and aided by the inspectors. Eight, supper. At nine the younger pupils retire, the older ones study until ten.

The mathematical instruction in this school is continued, even in the higher branches, upon the inductive plan, and is the most effective which I have ever seen. It consists of a mixture of explanation and question, and of oral and written exercises in the class-room. The recitations are upon the previous lessons, and upon questions given to be solved out of the class-room, and the written exercises are solutions of questions and notes of the explanation of the previous lesson. The collections in natural history are superior to those possessed by any other gymnasium which I visited. Both this and the physical apparatus afford very considerable means of illustration in these departments. The chemical laboratory, in a building apart from the house, is very conveniently arranged, both for instruction and experiments by the pupils.

The time of a gymnasium life varies with the progress of the student in literary acquirements. There are generally semi-annual transfers from one division to the other, and in very rare cases it might happen that an excellent student would finish his course in four years, remaining in each division but half a year, and on the other hand, a first-rate idler might stay as long as eight years. Hence, the average number of college years is six. The student, advancing from one class to another, finds there a remaining stock of students superior to himself, if not in talents, at least in acquaintance with the studies and with the professor of the class. After a three months' study and experience, the able student may leap over that boundary and put himself on a level with his older companions; and then he will be transferred with them to the next class. It is easier to do so in the inferior classes (lower gymnasium, IV. and III.,) where the order of the students is arranged according to their studies in the class, but in the upper gymnasium more respect is paid to the time and common order, though some capital scholar will break through, while some sluggard will be left behind. There is, also, a good deal of difference in this respect between the different schools, some having only annual translations, while only a part of the classes are divided; however, the way of advancement is in all the same, except only in the Blochmann gymnasium, where four regular courses of one year and a half each, carry the student in six years through the four undivided classes.

History flourishes in the German colleges to a high degree, not only the history of ancient Greece and Rome learned by reading the various authors, but also the universal history of the civilized world. The professor of history may be sure to have an attentive class, eager to hear of old German liberty beside the Roman despotism, of the Teutonic race conquering the Roman Europe, first running wild in their bravery, then grafting Christian civilization on the healthy stems of the great empire under Charles the Great, or Charlemagne, and under the Hohenstaufen, of the Franks and Normanns in Gallia, of the Saxons and Angles in

Britain, of the Longobards in Italy, of the sea-power of the Northmen, of the free cities of the Middle Ages, of the Reformation, and of the American Revolution. In history and mathematics generally, the divisions of a class are united. However, in those gymnasia where semi-annual transfers are in use, the teacher of mathematics may have a good deal of trouble, whereas history may be taught in short periods, and easily made intelligible to any one by brief introductions or some private study. We pass by geography, natural history, and philosophy, which have only a short life in the lowest or highest classes.

The circumstances, that mathematics and history are usually taught by one professor each, facilitates somewhat the teaching, as it at least gives free scope to the professor to make his arrangements as he pleases, while the Greek and Latin are mostly taught by class-teachers. The average number of teachers is eight, five or six of them called professors in some gymnasia, upper-teachers in others; or according to their rank Rector or Director, Prorector or Rector, Collega III. (Tertius,) Collega IV. (Quartus,) etc., and two or three Adjuncti or Collaboratores. Each one of them has his respective class, with several lessons in the adjoining classes. It will be understood that this matter depends on the agreement of the conference, and that the colleges, therefore, differ from each other in this respect, sometimes considerably. But to a certain degree it exists even in the Blochmann College, where there is no difference of rank among the professors, and the teachers are appointed not for classes but their respective branches. However, there being four teachers of ancient languages, they have each, besides teaching in all, one class in which they have their chief work. What! four and more teachers, only to instruct in the ancient languages? Yes, and all these have their good week's work. And the ancient languages are not only equally taught throughout the whole college, but even to a greater extent in the highest classes. Besides, an American student has only three recitations a day, a German at least five lessons; hence it is obvious that a greater number of teachers is wanted in German than in American schools.

We have arrived now at an important point of difference. It lies in the character of recitations and lessons. In Germany the student prepares for the lesson; here the student prepares by learning the lesson. In Germany he receives his entire lesson from the teacher; here he recites his lesson to the teacher. There he repeats his lesson at home; here he repeats it before the teacher. Briefly, there he learns almost every thing from the teachers; here he learns the greater part from his books. We hope not to be misunderstood; it is the construction of the machine, not the managing of it, which we have drawn here in sharp lines; too sharp, indeed, to be entirely correct, as it is the case with all distinctions of that kind, and yet evidently characteristic. Generally speaking, an American student has for preparing his lesson double the time of the recitation hour; a German but half the time; besides that, private study being supposed and required as well there as here. Here the class or lesson-book is the fireman who makes the steam power, and the teacher the engineer who makes it run. There the teacher is both fireman and engineer, and the student need to do no more than remember his last trip, and bring a supply of fuel for his further progress. Hence the greater number of lessons and teachers. It follows, likewise, that a German student usually has his pen in hand to make notes for recording and repeating, and on the other hand that the professor has the most unlimited liberty in teaching what and how he pleases. There is naturally a great deal of danger in that, but a method prescribed to the teacher in spite of his will, disposition or capacity, would bear even more bitter fruits than a method of his own choice, though it were not the best. Yet he is not free in choosing the author, at least so far as he might interfere with other classes, or transgress the established rule of the college on account of the successive order to be observed. That order, adopted by most of them according to the agreement of the most competent judges, is generally the following:

IV. Cornelius Nepos, (Phaedrus.)	IV. Jacob's Reader.
III. Caesar. Ovid's Metamorphoses, (Tristia.)	III. Xenophon. Lucian. Odyssey.
II. Cicero's Orations, or Cato and Laelius. Sallust or Livy. Virgil.	II. Herodotus. Plutarch. Plato's Crito or Io. Iliad.
I. Cicero's Rhetoric or Philos. Tacitus. Horace.	I. Thucydides. Demosthenes. Plato. (Euripides.) Sophocles.

The two different methods of reading the classics, the thorough and the cursory, and the third running between them, are promiscuously used. Let us compare the first with the artillery, the second with the cavalry, and the third with the infantry, as the head, the feet, and the large body of the army. The first is a heavy, cumbersome mass, moving slowly yet reaching far, and the only means to make a fortress surrender. It requires both learning and skill, and, if well directed, it breaks the battle-array of the enemies. So the first method is the chief instrument for making the pupil master of the classical field. It may appear tedious to stay long on the same spot, where the prospect invites to proceed, but the present place must be wholly conquered with all its environs, while the charms of the view around, the safety from an attack of enemies in the rear, and the consciousness of a sure and safe progress, will conquer the worst enemy, the vagrant laziness of mind. No grammatical point, which is not entirely subdued, is to be passed by, no beauty of style to be overlooked, no nicety of thought to be slighted. It is true, not a little learning and taste is required from the officer, to make it interesting and useful; for how can he make others at home where he himself is a stranger? Or how may he avoid the danger of dwelling long on those points with which he has been made acquainted just before, and of caring little about those which did not attract his special attention, as already known to him superficially? Instances of abuse have not been rare in Germay. Some dictated all the later notes of the best commentators; perhaps one whole page to explain a single verse, and added at last their own judgment; others made the foreign wisdom their own, indeed, but it was not well digested, it could not inspire much interest in classical learning. Still, notwithstanding all this, the danger was not so great as one might imagine, there being a variety of classical teachers in every gymnasium, who hold one another in check, or rather who supply the deficiencies of each other. Thus it happens even, that their foibles turn out as so many advantages for the student.

The cursory method we have compared with the cavalry. It is good to reconnoitre the battle-field, to take possession of open places, and to destroy the enemy, when he is put to flight. No one should expect more from cursory reading. On the whole, it is not often used in the German colleges, because it contains not much of educational element, either for character or for learning. However, we think it the best way to let it precede, and follow the first method. It acquaints the pupil somewhat with the language and tone of the writer, and thereby makes the following more thorough reading easier and more interesting. Here the professor must carry the student over the fences and ditches. It should follow not only that the pupil may enjoy the reading of a larger piece of poetry or prose, and excite lasting attachment to the author, but that it may throw light upon the past subjects, make suggestions better understood and confirm the knowledge of language and style by silent repetition. Here the student must carry the professor, who, however, will make a wise use of bridle and spur. Rapidity of mind and elegance of taste are the chief requisites for giving to the third method of reading the right turn and the best success. Every thing good lies between extremes. Most teachers are common foot soldiers, neither laden with learning nor rapid in tasteful perception; neither fond of standing too long, nor of running too quickly, but they go duly on, as they are commanded by learning or custom. In modern times much has been done toward improving the method by uniting the obvious advantages of the thorough and cursory plan, in order to read more of the author without losing the right understanding and the acquisition of the language.

For "author-lessons," a student is required to know all the necessary words and be able in some degree to translate the following chapter. Four or five perhaps get parts of it for translating. This being done, the teacher commences explaining by asking whatever the character of the passage and the standing of the students allow. In the lower gymnasium the Latin prose is used for repeating and applying the rules spoken of in the Syntax lessons; in the upper gymnasium grammatical remarks occur seldom, more frequently rhetorical, æsthetical and historical ones. Etymology is never lost sight of, but it is confined to Latin and Greek stems. The students are expected to make notes, to read them over at home, and are sometimes directed to learn the passages that have been read by heart.

The editions of the classics used in the lessons are commonly without notes, and the use of such, as have all somewhat difficult passages explained is forbidden during the lesson-time. A good teacher keeps the whole class alive chiefly by questioning, and only when nobody has found the right or could find it, he formally begins to instruct. For although the professor is the only source of instruction, the character of classical teaching is such, that it may be easily interwoven with any kind of examination, and few questions, proposed by an experienced and skillful teacher, will be so difficult as not to find among the many youths of different acquirements and abilities, at least one who could give a satisfactory answer. We mean an answer that gives a part of the point in question, and leads successively to the full explanation, which afterward the professor in a few words recapitulates. But however correct the single remarks may be, that instruction only deserves to be called skillful and elegant, where every following question seems to originate from the preceding, and the whole series of remarks appears to be more or less internally connected.

In Prima, *criticism* is practiced to some extent, and, we believe, not unsuccessfully. To be sure to discern hair-breadth philological niceties, or to judge of the genuineness of a passage or a single word, belongs to the sphere of the professional study of philology; yet not only to give the result with some suggestions about the foregoing researches, but also to lay before the seniors such critical points to be decided as are not beyond the reach of their learning, will undoubtedly strengthen the power and acuteness of judgment in an interesting and profitable manner. But the judgment of the professor himself respecting the choice of the critical point of discussion, and the manner in which it is managed, are in the department of education, where method is every thing, the chief point to be inquired after. That young men of about twenty years acquainted with language and literature, are qualified to play sometimes the part of critics, is evident, and they ought to be practiced in it.

There will be more doubt about the utility of *speaking Latin* in Prima and partly in Secunda. Of course, the authors are translated into German, but generally explained in Latin. Besides, there is one hour a week set apart in some colleges for Latin conversation. It is true that the students become more familiar with the language in many respects, but the correctness of language and elegance of style are not always much improved by it. Agreeable as that acquirement is, and even necessary as yet for the students to understand the Latin lectures in the university, it is to be considered as subordinate to the achievement of a correct style, and only when the speaking is well balanced by continual exercises in writing, will it exert a great and wholsome influence, and become an essential part of the classical discipline of mind.

The exercises in *writing Latin* are duly appreciated in the German gymnasia. In Quarta and Lower Tertia, where the syntax is accurately reviewed in three or four hours a week, short exercises, suitable to fix the learned rules by application, are made during and between the lessons. A translation-book, not unlike the English Arnold with rules, is often used besides Zumpt's grammar, but the right understanding and the best exercises come from the teacher. In Upper Tertia and Lower Secunda the German text for translation is prepared by the teachers, in which some care is taken of the weekly reading and of the still fluctuating grammatical precepts. But in Upper Secunda and Prima, at least for two years, the Latin exercises are *free compositions* on a given theme. They are not always weekly, but half-monthly and monthly, in order to allow a longer time to larger compositions of six to ten pages, while the review of the same is going on usually two hours a week. These free exercises are not only an important, but also a pleasant task to the advanced scholar, who is beyond the reach of a grammatical blunder, in the possession of all the necessary words, and fond of moving freely in imitating what he has read and in expressing what he thinks best. And only to him they are useful to whom they are easy. Another help for writing Latin are the "*Extemporalia*," in which the students, as the name indicates, is obliged to write immediately down in Latin what they are told in German. This quiet combination and exchange of the two languages promotes greatly the faculty of thinking in Latin, necessary to speaking and writing. In one gymnasium we noticed the usage of spending in Prima one hour of the week in making a brief composi-

tion on a given subject, read in Cicero or spoken of during the week. The short time does not allow deep reflection, still it is long enough to the eager student, to make a few periods chiefly with regard to the form, and to apply some elegancies of style remembered from the last Cicero-lesson. It is a matter of course, that free compositions in the German are made besides, and that they rank quite as high.

The teaching of the *Greek* reveals naturally a somewhat different character, as no reproduction either for speaking or for writing is intended. There is some writing in and for the grammar-lessons throughout all classes, (*Rost* and *Wüstemann's* Exercises are much used,) but it is easily perceived that the writing is by-work, and tends only to make authors and language better understood. Thus it happens that a young man who reads Homer without wanting the aid of a lexicon, is sometimes in some perplexity to find a common Greek word, if asked in German. And the Greek is not the worse for it, provided that on the one hand is gained, what on the other is lost. It may be supposed, however, that the philologist in the university is so well acquainted with the language by reading and explaining Greek writers, that he will be able to write and even to speak Greek tolerably, if compelled to do so.

In order to understand and enjoy poetry, one hour is appointed in every class for prosody and metre. The student of Tertia who commences reading Ovid, is prepared for it by a long practice of the rules of prosody and of the laws of hexameter distichs. In Secunda it is required of the student to make free verses, hexameters or distichs. Having been introduced into the variegated world of lyrical forms, and enabled to read and appreciate the odes of Horace, the "Primaner" makes little poems of whatever metre, heroic, lyric or dramatic. We hold these lessons and exercises to be very useful, not only to get a correct idea of the poetical but also of the general rhythmical laws of the languages, without which a nice understanding of prose as well as of poetry is next to impossible.

Let us add a few words in regard to private studies. Our readers who have rightly inferred from the large number of lessons, that a German gymnasiast has plenty of work in order to do his public task conscientiously, and very little time left for fancy-studying, provided that he takes a sufficient time for meals, rest, and exercise. On the other hand, it is obvious, that not all the authors mentioned above can be read. Yet some acquaintance with all of them is required, and the view is generally taken by the professors, that the reading which can not be done in the lessons ought to be supplied at home. The student, therefore, must work pretty hard to be well prepared for the lessons, to have his weekly exercises, as German and Latin compositions, Greek, metrical and mathematical lessons, exactly studied, and to give, as it is required in some colleges, every month a good account of his private studies. There he presents extracts of an author with compositions of any kind he pleases, in prose or poetry; and where no such account is given publicly, private studies of the same sort are nevertheless expected. Besides the morning and night hours, the free afternoons of Wednesday and Saturday afford a longer series of study-hours. There are in the whole about eight weeks vacation. The results of the home-studies are, of course, soon perceived by teacher and pupil, and the loss of time is doubly compensated by the rapid progress and by the ability to make the best exercises in the shortest time. Still, we do not mean merely free and independent reading and working, but chiefly the free spirit of diligence used independently of the necessities of school, yet in doing the school-work.

The boy of fourteen is now a young gentleman of twenty years. Having made his lawful run, and having the permission of the professors to graduate, he must bite a sour apple and get examined. This "examen maturitatis" is somewhat more difficult and more important than the usual semi-annual or annual examinations, for it will declare him prepared for independent and professional studies, and also decide on the degree of his maturity, ("imprimis," "omnis," "satis," dignus.) All however have laid a good foundation for any kind of scholarship, or likely to read with ease the New Testament (such as are to be theologians are taught the Hebrew in Prima,) the Corpus Juris and Celsus, can understand a Latin lecture or oration, and retain so much during their professional life in the university, as to be able generally to speak Latin after three years, in the theological, juridical or medical examinations.

The classical education, as common to all scholars, is here closed. But for those who intend devoting their lives to classical learning and teaching, the philological training continues in the universities.

TABLE OF LESSONS IN THE BLOCHMANN-VITZTHUM COLLEGE, (1840,) AT DRESDEN.

IV.

	H.		H.		H.
1. Religion	3	C. German	2	5. Natural Hist.	1
2. Languages:		D. French	3	6. Geography	2
A. Greek	6	3. Mathematics:		7. Drawing	2
B. Latin		(a) Algebra	1	8. Singing	2
(a) Cornelius Nep.	4	(b) Arithmetic	1	9. Gymnastics	2
(b) Grammar	3	(c) Geometry	2	10. Dancing	2
(c) Prosody	1	4. History	3		—
					40

III.

1. Religion	2	(c) Grammar	4	5. Natural Hist.	1
2. Languages:		(d) Prosody	1	6. Geography	2
A. Greek,		C. German	2	7. Drawing	1
(a) Homer	2	D. French	3	8. Singing	2
(b) Lucian	2	3. Mathematics:		9. Gymnastics	2
(c) Grammar	2	(a) Algebra	1	10. Dancing	1
B. Latin,		(b) Arithmetic	1		—
(a) Caesar	4	(c) Geometry	2		40
(b) Ovid	2	4. History	3		

II.

1. Religion	2	(b) Cicero	2	(a) Algebra	1
2 Languages:		(c) Sallust	2	(b) Arithmetic	1
A. Greek,		(d) Grammar	3	(c) Trigonometry	2
(a) Iliad	2	(e) Prosody	1	4. History	2
(b) Herodotus	2	C. German	2	5. Natural Hist.	2
(c) Grammar	3	D. French	3	6. Gymnastics	2
B. Latin,		E. English	2	7. Singing	2
(a) Virgil	2	3. Mathematics:		8. Dancing	2
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I.

1. Religion	2	B. Latin,		E. English	2
2. Languages:		(a) Tacitus	2	3. Mathematics:	
A. Greek,		(b) Cicero, phil. cursor.	1	(a) Stereometry	2
(a) A) Sophocles }	2	A) Cic. philos. }	2	(b) Higher proport.	2
B) Euripides }		B) Cic. epis. }		4. History	2
(b) A) Thucydides }	2	(c) Horace	2	5. Natural phil.	2
B) Demosthen. }		(d) Exercises	2	6. Gymnastics	2
(c) Homer cursor.	1	(e) Latin speak.	1	7. Singing	2
(d) Exercises	1	C. German lit.	3	8. Dancing	2
(e) Greek Antiquit.	1	D. French	2		—
					40

PROGYMNASIUM.

	II.	I.		II.		I.
Religion	4	"	Bot., Zool., Min.,	2		"
Latin	6	9	Drawing	2		"
German	3	"	Calligraphy	2		"
French	4	"	Gymnastics	3		3
Arithmetic	3	"		—	Singing	2
Geography	2	"		34		—
						38

XIII ORGANIZATION AND INSTRUCTION

OF

BURGHER SCHOOL IN LEIPSIC, SAXONY.

In Leipsic the public primary schools are of three sorts, the first for the use of the children of the poor who receive supplies from the public; the second for those who, not belonging to this class, would still be burthened by the payment of a school fee; the third, the burgher class. Many of the schools are endowed. The Burgher school is considered by Dr. Bache one of the most complete in its plan of organization in Germany. He thus describes it:

This school is designed to educate children of the middle ranks of society, and those of the upper ranks whose parents wish them to receive a public education.

It is composed, 1st. Of an *elementary school* for both boys and girls, which pupils should enter at six years of age. There are three classes, in the lowest of which the two sexes are taught in the same room. The pupils are retained, in general, a year and a half to two years, leaving this department at eight years of age and proceeding to the next higher.

2d. The *burgher school* proper. Here the boys and girls receive instruction separately. There are six classes for boys, each of which occupies a year. After passing through the three lower classes, the sixth, fifth, and fourth, the pupils begin separate courses, according to their inclination or supposed destination in life. This is at about eleven years of age. Those who are intended for trades, and whose school education must finish at fourteen, to enable them to begin their apprenticeship, pass through the remaining classes, the third, second, and first of the burgher school.

Other boys who are intended to pursue higher departments of mechanical occupations, or for manufacturers, clerks, miners, foresters, stewards of estates, merchants, artists, civil officers, &c., pass into the department called the "*real school*," terminating their course there at about sixteen years of age. Others who are intended for the learned professions go at eleven to a gymnasium, pass through its classes at eighteen, and enter the university, being prepared for a profession at twenty-one.

3d. The "*real school*" or higher burgher school. In this there are four classes, intended to occupy together about five years, and to prepare the pupils to enter a commercial, polytechnic, architectural, or mining academy, according to his vocation.

Omitting the girls' school, the scheme thus marked out will appear better by the following skeleton:

Elementary School.—Three classes. Pupils 6 to 8 years of age.

Burgher School.—Three classes. Pupils 8 to 11 years of age.

Higher Burgher School.—Three classes. Pupils 11 to 14 years of age. The pupils are apprenticed on leaving the school. Or,

Real Schools of four classes. Pupils 11 to 16 years of age, and pass to a *polytechnic, commercial, mining, architectural, &c., academy*. Or,

Gymnasium (grammar school) of six classes. Pupils 11 to 18 years of age. They pass to the *university*, where, after a course of three years, they may be admitted to one of the learned professions.

A plan at once convenient and rational is thus marked out for a youth's education, depending upon the views of his parents, their circumstances, and his own talents and dispositions. The first four named schools are united in one building, erected by the liberality of the town of Leipsic, and have the same director.

The subjects and the order of succession of the different courses are good·

there is a constant reference to the ultimate object of the instruction, and no branches are inserted in the programme merely for the purpose of preparing pupils for the higher classes of other schools. It is, on the contrary, considered better that pupils should obtain access to them through the lower classes of the same school. By detaining them here, injury would be done to both schools. The primary instruction which is common to all the pupils, embraces a moderate number of branches, and terminates at an age when experience has shown that the culture by the ancient languages should be no longer postponed, in the case of those who are intended for the learned professions, and when the studies of others destined for the arts should take a different direction. The question, whether the proper age has been adopted for this separation is wholly one of experience, and the facts in reference to it will be submitted in speaking of secondary instruction.

The subjects taught and the time they occupy in the *elementary school* agree very closely with those of the first two classes* in the seminary school of Berlin. Drawing on slates and singing are both introduced here, constituting an advantage over the other; they are brought in as a relief from intellectual exercises, and as objects of direct attainment. The number of hours of duty is but four on four days of the week, and two on each of the others. These might, I think, be increased to the standard of the primary schools, twenty-four hours per week, without fear of over-tasking the pupils; and if a portion of the time were bestowed on judiciously arranged exercises, the physical as well as moral education would be improved. The moral training of the play-ground is not as yet an element in any of the German systems. The same master teaches in succession all the studies of his class.

The pupils pass from the third to the second class at the end of six months, a change which is favorable to their progress, since at this early age strongly marked differences appear soon after entering the school. With a similar view of fitness in regard to their age, the plan of daily exercises is not rigorously prescribed, but is merely indicated to serve as a general guide in relation to the time to be devoted to the different subjects.

I found occasion in this school to remark the danger of defeating the exercises of induction, by making them merely mechanical, by the reception of fixed answers to invariable questions; and, also, the necessity of selecting very simple melodies for the early exercises in singing; beyond these, the exertion of the voice of the child, so far from being a physical benefit, is a positive injury. My preference for beginning arithmetic with a reference to sensible objects, that is, by denominate numbers, was again strongly confirmed.

It might seem impossible to determine how many pupils of a definite age might, with advantage, be intrusted to the care of one teacher under a given method of instruction. The average for branches of the same kind is not, however, so wide from the extremes as might at first be supposed. In the simultaneous method, the skill of the teacher is the chief determining quality. The various subordinate ones depending upon the pupil, the particular exercise, the arrangements in reference to ventilation, warmth, &c., will readily suggest themselves. In the midst of all these, the average shows itself to attentive observation. It is easy to see how many pupils are attending to what is going on, and if the teacher be skilled in his art, the number is thus obtained, which a class should not exceed. For the intellectual exercises, I obtained in this way from thirty-five to forty in the German schools as the maximum number of an elementary class; the observation in reference to the classes of the best teachers here confirmed these numbers. In the mechanical branches, the number of pupils may be very much increased, without material injury to the instruction, and hence, the classification which suits them is not adapted to the intellectual departments.

The principal subjects of instruction in the *burgher school*, including both the lower and higher departments, are religion and morals, German, French, arithmetic, geometry, natural history, history, geography, calligraphy, drawing, and vocal music, and to these are added in the highest classes technology and physics. The list differs from that of the Dorothean higher city school, and the seminary school of Berlin, in the omission of Latin and the introduction of technology and

* See page 133.

physics, both which differences mark the proper character of the school. It is not intended that the upper classes shall prepare pupils for the higher classes of the gymnasium, but that those who are to be trained in the classical studies shall have previously passed to the lower classes of the gymnasium, where they properly belong, and where they can obtain the instruction appropriate to their objects. The distribution of time is shown in the annexed table, which is similar in its arrangement to those already given.

PLAN OF INSTRUCTION IN THE HIGHER AND LOWER BURGHER SCHOOLS OF LEIPSIC.

SUBJECTS OF INSTRUCTION.	BURGHER SCHOOL FOR BOYS.						
	HIGHER SCHOOL.			LOWER SCHOOL.			
	First Class, 13 and 14 years of age.	Second Class, 12 and 13 years of age.	Third Class, 11 and 12 years of age.	Fourth Class, 10 and 11 years of age.	Fifth Class, 9 and 10 years of age.	Sixth Class, 8 and 9 years of age.	Total.
Religious Instruction,	4	4	4	4	4	4	24
German Language,*	5	6	8	6	8	6	39
French,	2	2	2				6
Arithmetic,	4	4	4	4†	6	6	28
Geometry,	2	2	2				6
Natural History,	1‡	3	2	2	2	2§	12
Technology,	2						2
Physics,	2						2
Geography,	2	2	2	2		2	10
History,	2	2	2	2	2		10
Writing,	1	2	2	3	3	4	15
Drawing,	4	4	3	3	2	1	17
Singing,	2	2	2	2	1	1	10
Total,	33	33	33	28	28	26	

The increase in the number of branches as the pupils rise to the upper classes, seems to me judiciously made in this plan. At the same time, the number of hours per week is gradually increased, and perhaps beyond the due limit, though it would require longer attention than I could give to this institution to affirm positively that this is the case. Comparing the programme with that of the classes of corresponding age in the seminary school of Berlin, a general similarity appears throughout, although each has distinctive features. In the sixth class, of which the pupils are of the same age with those of the fourth in the seminary school, a few lessons of natural history and geography ("knowledge of home") are given, and with advantage. The number of hours per week devoted to the different studies is nearly the same in both schools.

In the fifth class, natural history and history are introduced in the burgher school, and in its corresponding classes in the seminary school, Latin, French, and geometry. The number of hours of arithmetical instruction is greater in this school than in the other.

A similar difference continues in the fourth class, as it is not the object to begin French until after those who leave the school at fourteen have terminated their course. The elementary exercises of geometry are begun in this class of the burgher school.

The third class is the first or lowest of the *higher burgher school*, and the pro-

* This includes the exercises of reading.
† In this is included an hour of preparatory exercises for geometry.
‡ Anthropology.
§ Elementary natural history and natural philosophy.

gramme of this and of the second agree in the main with those of the seminary school. Greater attention is devoted to religious instruction, to arithmetic, and drawing, and less to French, in the burgher than in the seminary school. The number of hours given to the first named branch in the burgher school is double that in the other, and the number to the last only one-half, which is, probably, too small an allotment for the object. Technology and physics are taken up in the first class of the Leipsic school, and Latin is continued through all those of the Berlin institution.

In regard to the plan of treating the subjects of instruction, the following is a comparison of the two schools:

1. In *religious instruction*, the general train is the same, being more detailed in the burgher school, and having a special course of morals in the higher classes. In general, the German institutions are very free from an objection urged to a course of religious instruction, in a former part of my report, namely, that it was addressed rather to the understanding than to the heart. There is no express instruction in morals, but it is because the morals of the Scriptures mingle with their daily lessons, and no special course is needed, until a more advanced age, than that embraced by these schools in general.

2. The course of *German* language (including composition) and reading, is parallel with that of the Berlin seminary school, except in the two higher classes. In these a turn is given to the compositions to adapt them to the peculiar destination of the pupils, who are also exercised in speaking, by reading dialogues and brief dramatic pieces. In a country enjoying a constitutional government, the art of public speaking may not be neglected by its citizens.

3. The course of *French*, in the burgher school, struck me as rather defective, probably from the small amount of time which is devoted to it, as already stated.

4. *Mathematics.*—The courses of arithmetic and geometry are also parallel with those in the seminary school. The mathematical studies here are extended further in Algebra, and include logarithms, mensuration, and surveying.

5. *Natural history, physics, and technology.*—The early beginnings of this course are exercises in induction, directed particularly to awaken habits of observation and reflection. Later, some of the more interesting parts of natural history are taken up, and, finally, the subject is treated somewhat systematically, and a technological direction given to it. The physics consists of such popular notions of natural phenomena as should be possessed by all. The technology explains the processes of some of the common arts and trades.

6. The course of *geography* begins like that already described at Halle, but subsequently pursues the inverse order, giving an idea of the earth as a part of the world, its form, motions, &c. Director Vogel has conceived the plan of presenting the parts of the earth always in their just proportions, as upon the sphere, and has contrived for this purpose a globe which may be divided through the equator or through a meridian. The hemisphere being suspended with its plain surface against the wall, presents the convex surface, with its delineations, in true proportion. This idea he proposes to extend, by substituting for maps, in the early recitations, portions of spherical surfaces, with the delineations of the countries upon them.

After taking a general survey of the different countries, especially those of Europe, the pupils pass to the geography of Germany. They then enter more into the details of the countries of Europe, draw maps, and, finally, study mathematical and physical geography in a scientific form. To carry out his views of the connection of history, natural history, and ethnography with geography, director Vogel has prepared a school atlas upon a new plan. The vignettes surrounding the maps contain illustrations of these different kindred branches, and address the eye of the learner, thus impressing the memory with their connection with the countries delineated. For example, around the maps representing the different quarters of the globe are the characteristic plants, animals, and men of the different regions near to the portions of the country where they are found. The more detailed maps of the countries give a view of their natural productions, represent the more prominent or characteristic qualities of the nation, the arts which flourish more particularly among them, and give medallions portraying their great historical characters, or including the names of their distinguished men, or the dates of important historical events.

7. The *historical* course, as far as it is distinct from that last mentioned, agrees, in its general features, with that of the Berlin seminary school, being, however, more minute.

8. *Writing and drawing.*—In learning to write, the classes begin with small hand, and succeed better than is usual upon that plan, probably from the attention, at the same time, to drawing. The last named branch is taught by Schmidt's method. The teacher has made an admirable collection of models in wood and plaster, of geometrical solids, of machines, of buildings, bridges, and the like, of ornaments, &c., and brings his class forward in this kind of drawing very rapidly. Only the more elementary parts of these collections, however, are used for the classes of the burgher school.

9. Vocal music is taught as in the other schools

The particular method which the teacher pursues in his instruction is left much to the individual, the director remarking, justly, that if he is competent to his place, his method must be good. He has for his guide, however, a programme indicating the degree of proficiency which his class must show at the end of the year.

In the lower classes of a school like this, if the pupils have been previously well trained, a larger number can be instructed by the simultaneous method than in the elementary classes, in a subject of the same kind. This advantage is lost as the course becomes higher, and the scale turns again in proportion as individual teaching becomes more desirable, with increased individual development and differences in mental quality. The simultaneous method requires watchfulness on the part of the teacher, not to deceive himself as to the progress of his class. It is, of course, rarely that a question can not be answered by some of them, while the mass may be entirely ignorant in relation to the subject. I have seen both skill and attention fall into the mistake to which I refer.

Between each of the hours of recitation there are a few minutes of interval, during which the classes leave the school-rooms. This is an arrangement favorable to health, and worthy of imitation.

The lower classes have each a teacher for all the subjects, a system which is gradually changed in the higher classes for that of a teacher for a single subject. Drawing and singing are taught by special instructors in the higher classes.

The classes for girls are similar to those described, the instruction being modified so as to render it more applicable to the sex.

The plan of instruction in the "*Real School*," the highest of which this establishment is composed, can hardly be said to have received, as yet, its ultimate form. The school belongs to the class of secondary instruction, running parallel with the gymnasium, and preparing for the university of the arts, or polytechnic school, as the other prepares for the university of the learned professions. The branches taught, and which I may enumerate, to complete the description of the institution, are,

1. Religious instruction. 2. German. 3. French. 4. English. 5. Mathematics, including algebra; geometry, trigonometry, plane and spherical; practical surveying; a review of arithmetic and technical arithmetic. 6. Physics and chemistry. 7. Natural history. 8. History. 9. Geography. 10. Calligraphy. 11. Drawing. 12. Vocal music.

The separate branches in this school are in general taught by special instructors. The methods of Pestalozzi are considered by the director as less applicable to the higher than to the lower courses. But I doubt this, for though much less frequently applied, I have seen them used with good effect in advanced courses. The opposite method takes up less time if the object be to communicate positive knowledge, and the importance of this object certainly increases, and even becomes paramount, in the later parts of the student's career. The objection urged to this plan does not apply in the case of those subjects which are continuous through a series of years, but to such as are broken up into a number of kindred branches, the elements of which are to be taught at different, and even at advanced stages of the course.

The plan of special study hours for those whose parents wish them to be prepared for their lessons under the direction of a teacher, has been adopted in this school.

XI. ELEMENTARY EDUCATION IN SCOTLAND.

HISTORICAL SKETCH.

THE parochial schools of Scotland have been the pride of her own people and the admiration of enlightened men in all countries. The foundations of the system were laid in 1494. In that year it was enacted by the Scotch Parliament, that all barons and substantial freeholders throughout the realm should send their children to school from the age of six to nine years, and then to other seminaries to be instructed in the laws; that the country might be possessed of persons properly qualified to discharge the duties of sheriffs, and to fill other civil offices. Those who neglected to comply with the provisions of this statute were subjected to a penalty of £20. In 1560, John Knox and his compeers hold the following memorable language, in the "First Book of Discipline," presented to the nobility.

"Seeing that God has determined that his kirk here on earth shall be taught, not by angels, but by men; and seeing that men are born ignorant of God and of godliness; and seeing, also, that he ceaseth to illuminate men miraculously, of necessity it is, that your honors be most careful for the virtuous education and godly up-bringing of the youth of this realm. For as they must succeed to us, so we ought to be careful that they have knowledge, and erudition to profit and comfort that which ought to be most dear to us, to wit, the kirk and spouse of our Lord Jesus Christ. Of necessity, therefore, we judge it, that every several kirk have one schoolmaster appointed; such an one, at least, as is able to teach grammar and the Latin tongue, if the town be of any reputation. And further, we think it expedient, that in every notable town, there should be erected a *college*, in which the arts at least of rhetoric and logic, together with the tongues, be read by sufficient masters, for whom honest stipends must be appointed; as also that provision be made for those that are poor, and not able by themselves or their friends, to be sustained at letters.

The rich and potent may not be permitted to suffer their children to spend their youth in a vain idleness, as heretofore they have done; but they must be exhorted, and, by the censure of the kirk, compelled to dedicate their sons by good exercises to the profit of the kirk, and commonwealth; and this they must do, because they are able. The children of the poor must be supported and sustained on the charge of the kirk, trial being taken whether the spirit of docility be in them found, or not. If they be found apt to learning and letters, then may they not be permitted to reject learning, but must be charged to continue their study, so that the commonwealth may have some comfort by them; and for this purpose, must discreet, grave, and learned men be appointed to visit schools, for the trial of their exercise, profit, and continuance; to wit, the ministers and elders, with the best learned men in every town. A certain time must be appointed to reading and learning the catechism, and a certain time to grammar and to the Latin tongue, and a certain time to the arts of philosophy and the other tongues, and a certain time to that study in which they intend chiefly to

travel for the profit of the commonwealth; which time being expired, the children should either proceed to further knowledge, or else they must be set to some handicraft, or to some other profitable exercise."

In 1615, an act of the Privy Council of Scotland empowered the bishops, along with the majority of the landlords or heritors, to establish a school in every parish in their respective dioceses, and to assess the lands for that purpose. This act of the privy council was confirmed by an act of the Scotch Parliament, in 1633; and under its authority, schools were established in the lower and the more cultivated districts of the country. But the system was still far from being complete; and the means of obtaining elementary instruction continued so very deficient, that it became necessary to make a more complete and certain provision for the establishment of schools. This was done by the famous act of 1696, the preamble of which states, that "Our Sovereign Lord, considering how prejudicial the want of schools in many places has been, and how beneficial the establishing and settling thereof will be to this church and kingdom, therefore, his Majesty, with advice and consent, &c." The act went on to order, that a school be established, and a schoolmaster appointed in every parish; and it further ordered that the landlords should be obliged to build a school-house, and a dwelling-house for the use of the master; and that they should pay him a salary, exclusive of the fees of his scholars; which should not fall short of 5*l.* 11*s.* 1*d.* a year, nor exceed 11*l.* 2*s.* 2*d.* The power of nominating and appointing the schoolmaster was vested in the landlords and the minister of the parish; and they were also invested with the power of fixing the fees to be paid him by the scholars. The general supervision of the schools was vested in the presbyteries in which they are respectively situated; who have also the power of censuring, suspending, and dismissing the masters, without their sentence being subject to the review of any other tribunal.

It has been usually expected that a Scotch parish schoolmaster, besides being a person of unexceptionable character, should be able to instruct his pupils in the reading of English, in the arts of writing and arithmetic, the more common and useful branches of practical mathematics, and that he should be possessed of such classical attainments as might qualify him for teaching Latin and the rudiments of Greek.

It would be no easy matter to exaggerate the beneficial effects of the elementary instruction obtained at parish schools, on the habits and industry of the people of Scotland. It has given to that part of the empire an importance to which it has no claim, either from fertility of soil or amount of population. The universal diffusion of schools, and the consequent education of the people, have opened to all classes paths to wealth, honor and distinction. Persons of the humblest origin have raised themselves to the highest eminence in every walk of ambition, and a spirit of forethought and energy, has been widely disseminated.

At the period when the act of 1696 was passed, Scotland, which had suffered greatly from misgovernment and religious persecutions under the reigns of Charles II. and his brother, James II., was in the most unprosper-

ous condition. There is a passage in one of the discourses of the celebrated Scotch patriot, Fletcher of Saltoun, written in 1698, only two years after the act for the establishment of parochial schools had been passed, that sets the wretched state of the country in the most striking point of view.

"There are, at this day in Scotland, besides a great many families very meanly provided for by the church boxes, with others who, by living upon bad food, fall into various diseases, two hundred thousand people begging from door to door. These are not only no way advantageous, but a very grievous burden to so poor a country. And although the number of them be, perhaps, double to what it was formerly, by reason of this present great distress, yet in all times there has been about a hundred thousand of these vagabonds, who have lived without any regard or subjection, either to the laws of the land, or even those of God and nature. No magistrate could ever discover which way one in a hundred of these wretches died, or that ever they were baptized. Many murders have been discovered amongst them; and they are a most unspeakable oppression to poor tenants, who, if they do not give bread, or some kind of provision, to perhaps forty such villains in a day, are sure to be insulted by them. In years of plenty many thousands of them meet together in the mountains, where they feast and riot for many days; and at country weddings, markets, burials, and other the like public occasions, they are to be seen, both men and women, perpetually drunk, cursing, blaspheming, and fighting together. These are such outrageous disorders, that it were better for the nation they were sold for the gallies or the West Indies, than that they should continue any longer to be a burden and a curse upon us."

No country ever rose so rapidly from so frightful an abyss. In the autumn circuits or assizes for the year 1757, no one person was found guilty, in any part of the country, of a capital crime. And now, notwithstanding the increase of population, and a vast influx of paupers from Ireland, there are very few beggars in the country; nor has any assessment been imposed for the support of the poor, except in some of the large towns, and in the counties adjoining England; and even there it is so light as scarcely to be felt. This is a great and signal change. We can not, indeed, go quite so far as those who ascribe it entirely to the establishment of the parochial system of education. It is, no doubt, most true, that this system has had great influence in bringing about the change; but much must also be ascribed to the establishment of a regular and greatly improved system of government; to the abolition of hereditary jurisdictions, by the act of 1748; and to the introduction of what may, in its application to the vast majority of cases, be truly said to be a system of speedy, cheap and impartial justice. Certainly, however, it was the diffusion of education that enabled the people to avail themselves of these advantages; and which has, in consequence, led to a far more rapid improvement than has taken place in any other European country.

The General Assembly of the Church of Scotland has ever taken an active interest in the parochial schools. Immediately after the passage of the act of 1696, the Presbyteries were instructed to carry it into effect, and *Synods*, to make particular inquiry that it was done. In 1704, the Assembly undertook to supply schools to such part of the highlands and islands as could not be benefited by the act of 1696. In 1705, ministers were ordered to see that no parents neglected the teaching of their chil-

dren to read. In 1706, it was recommended to such as settled schoolmasters, "to prefer men who had passed their course at colleges and universities, and have taken their degrees, to such as have not." In 1707, Synods and Presbyteries were directed to send into the General Assembly returns of the means and condition of the parochial schools.

The internal dissensions of Scotland and other causes, however, withdrew the public attention from the schools; and the advance of society in other respects, and the want of a corresponding advance in the wages of teachers, and the internal improvement of the schools, all combined to sink the condition of parochial education. In 1794, the General Assembly became roused to the subject. Visitation of the schools was enjoined on the clergy; and they were particularly instructed to inquire into the qualifications of the teachers. In 1802, the Assembly issued the following declaration, &c.:

"That parochial schoolmasters, by instilling into youth the principles of religion and morality, and solid and practical instruction, contribute to the improvement, order, and success of people of all ranks; and are therefore well entitled to public encouragement: That from the decrease in the value of money, their emoluments have descended below the gains of a day laborer: That it has been found impossible to procure persons properly qualified to fill parochial schools: That the whole order is sinking into a state of depression hurtful to their usefulness: That it is desirable that some means be devised to hold forth inducements to men of good principles and talents to undertake the office of parochial schoolmasters: And that such men would prove instrumental in counteracting the operations of those who may now, and afterward, attempt to poison the minds of the rising generation with principles inimical to religion, order, and the constitution in church and state."

In consequence of this declaration by the Church of Scotland, and of the complaints which were sent up from all parts of the country, Parliament, in the course of the next session, passed the famous act of 1803, which ordains as follows:

"That, in terms of the act of 1696, a school be established, and a schoolmaster appointed in every parish, the salary of the schoolmaster not to be under three hundred marks, (16*l.* 13*s.* 4*d.*,) nor above four hundred, (22*l.* 4*s.* 5*d.*:) That in large parishes, where one parochial school can not be of any effectual benefit, it shall be competent for the heritors and minister to raise a salary of six hundred marks, (33*l.* 6*s.* 8*d.*,) and to divide the same among two or more schoolmasters, as circumstances may require: That in every parish the heritors shall provide a school-house, and a dwelling-house for the schoolmaster, together with a piece of ground for a garden, the dwelling-house to consist of not more than two apartments, and the piece of ground to contain not less than one-fourth of a Scots acre; except in parishes where the salary has been raised to six hundred marks, in which the heritors shall be exempted from providing school-houses, dwelling-houses, and gardens: That the foregoing sums shall continue to be the salaries of parochial schoolmasters till the end of twenty-five years, when they shall be raised to the average value of not less than one chalder and a half of oatmeal, and not more than two chalders; except in parishes where the salaries are divided among two or more schoolmasters, in which case the whole sum so divided shall be raised to the value of three chalders; and so *toties quoties* at the end of every twenty-five years, unless altered by parliament: That none of the provisions of this act shall apply to parishes, which consist of a royal burgh, or part of a royal burgh: That the power of electing schoolmasters continue with the heritors and minister, a majority of whom shall also determine what branches of education are most necessary and important for the parish, and shall from time to time fix the school-fees as they shall deem expedient: That the presbyteries of the church shall judge whether candidates for

schools possess the necessary qualifications, shall continue to superintend parochial schools, and shall be the sole judges in all charges against schoolmasters, without appeal or review."

In the year 1828, as the statute had provided, a small addition was made to the emoluments of the parochial schoolmasters, the *maximum* salary having been increased to 34*l.* 4*s.* 4*d.*, and the *minimum* to 25*l.* 13*s.* 3*d.*

The deplorable scenes of outrage and murder, which occurred in the streets of Edinburgh on the 1st of January, 1812, made the city clergy anxious to devise some means for diminishing the mass of crime and misery which was then brought to light. The scheme first proposed, and carried into execution, was to establish sabbath schools in all the parishes within the royalty, to which they gave the name of the Parochial Institutions for Religious Education. It was soon found, however, that the usefulness of these institutions was greatly limited, in consequence of a very great number of the children, for whose benefit they were intended, being unable to read. It was therefore proposed that, in connection with the sabbath schools, a day school should be established, which was accordingly opened on the 29th of April, 1813. This day school took the name of the Edinburgh Sessional School, from the circumstance of its being superintended by a minister or an elder from each kirk-session* in the city. The object of this school is to give instruction to the children of the poor in reading, writing, and arithmetic. Five gratis scholars may be recommended by each kirk-session; but the charge to all the others is sixpence per month. For many years the average attendance has been about 500; so that the school-fees, together with occasional donations, and a small share of the collections made annually at the church doors for the parochial institutions, have hitherto been sufficient to meet the ordinary expenses of the school. At first, no particular regulations were laid down for conducting the Sessional School; but after some years, the system of Dr. Bell was partially introduced. In the year 1819, circumstances led Mr. John Wood, Sheriff-deputy of the county of Peebles, to take an interest in the institution; and that benevolent individual began by degrees to give so much of his time and attention to it, that it soon became almost identified with his name. Under his superintendence, a large and commodious school-house was erected, and the system of teaching entirely re-modeled. In the latter department of his meritorious labors, Mr. Wood did not adopt the particular views of any one writer on education, but collected from all what he thought useful, and arranged it into a method of his own. So judicious is this plan of tuition, that it has not only been crowned with complete success in the Sessional

* A *kirk-session* is the lowest ecclesiastical court in Scotland, and consists of the clergymen of each congregation, with a small number of lay elders: it generally meets on Sunday, after public worship. The next court, in point of judicial authority, is the *presbytery*, which consists of all the clergymen within a certain district, with a lay elder from each congregation: this court meets once a month. All the presbyteries within given bounds, form a still higher court, called a *synod*, which meets twice in the year. The *General Assembly* is the supreme judicial and legislative court of the Church of Scotland; it consists of clerical and lay representatives from the several presbyteries, of a lay elder from each royal burgh, and of a Commissioner to represent his Majesty, and holds its sittings at Edinburgh, once a year, for about a fortnight.

School, but has been introduced, either partially, or entirely, into many other public and private seminaries, and has, in fact, given a new impulse to the work of elementary instruction throughout Scotland.

In 1837 the Sessional School was, with the approbation of Mr. Wood, constituted the Normal School of the General Assembly, and persons intending to offer themselves as teachers in schools aided by the Education Committee, were furnished with opportunities of conducting classes daily, and of being instructed with pupils of the same standing with themselves. Previous to this movement, in 1835, the Educational Society of Glasgow had been formed, among other purposes, "for the training of teachers for juvenile schools." In 1842, both of these institutions were placed under the direction of the Educational Committee of the Church of Scotland, and the Committee of Council on Education, in that year, made a grant of $50,000 toward providing a new building for the Normal School at Edinburgh, and completing a building already commenced for the Normal School at Glasgow. The two buildings cost about $130,000. In the same year the General Assembly appointed a superintendent to visit the schools aided by the education committee, and voted to aid in the erection of not less than five hundred new schools in connection with destitute parishes.

In 1841, William Watson, Sheriff-substitute of Aberdeenshire, commenced a system of Industrial Schools in Aberdeen, which embraced within its comprehensive grasp, all classes of idle, vagrant children, and in its beneficent operation, cleansed in two years a large town and county of juvenile criminals and beggars. Out of this experiment has grown the system of Ragged and Industrial Schools, which are now found in many of the large towns of England, Scotland and Ireland.

The permanent support of public, and in some cases, free schools, is provided for in certain localities by the income of funds left by will or donation for this purpose. It has been estimated that the annual income of these funds amounts to near $100,000.

There are a number of local societies, such as that for "Propagating Christian Knowledge," founded in 1701, the Gaelic School Society, that of Inverness, Ayrshire, &c., instituted for the purpose of supplying destitute parishes with schools, and of aiding those already established. The sums annually appropriated by the societies, amount to about $75,000.

The Church of Scotland and the Free Church of Scotland, together, appropriate, out of permanent funds and contributions collected in the churches for this purpose, the sum of $50,000 in aid of schools in destitute parishes, and in educating teachers for the parochial schools generally.

In 1836, the sum of $50,000 was voted by Parliament in aid of private subscriptions for the erection of school-houses, and the establishment of Model Schools.

Notwithstanding all these efforts, the extension of the system of parochial schools has not kept up with the growth of the population, especially in the manufacturing towns, and the quality of the education given has not met the demands of educated and wealthy families.

One of the most interesting facts in the history of parochial schools in Scotland, wherever they were adequately maintained, was the attendance in them of children from families widely separated in outward circumstances—the rich and the poor, the laborer with his hands and the laborer with his head. The presence of the children of the better educated and wealthier classes gave importance to the school in the estimation of the poor, and raised the whole tone and standard of manners and intellectual culture within the school and village. It created, too, a bond of union in society, which is thus beautifully noticed by Lord Brougham, (then Henry Brougham,) in some remarks at a public dinner in Edinburgh, in 1825.

"A public school, like the Old High School of Edinburgh, is invaluable, and for what is it so? It is because men of the highest and lowest rank in society send their children to be educated together. The oldest friend I have in the world, your worthy Vice President, and myself, were at the High School of Edinburgh together, and in the same class along with others, who still possess our friendship, and some of them in a rank of life still higher than his. One of them was a nobleman, who is now in the House of Peers; and some of them were sons of shopkeepers in the lowest parts of the Cowgate of Edinburgh—shops of the most inferior description—and one or two of them were the sons of menial servants in the town. There they were, sitting side by side, giving and taking places from each other, without the slightest impression on the part of my noble friends of any superiority on their parts to the other boys, or any ideas of inferiority on the part of the other boys to them; and this is my reason for preferring the Old High School of Edinburgh to other, and what may be termed more patrician schools, however well regulated or conducted." * *

Another distinguished pupil of this school remarks: "Several circumstances distinguished the High School beyond any other which I attended: for instance, variety of ranks; for I used to sit between a youth of a ducal family and the son of a poor cobler." This fact will distinguish good public schools of a superior grade, provided they are cheap, every where. The High School, like the parochial schools of Scotland, generally is not a free school, but the quarterly charge for tuition is small as compared with the actual cost of instruction in private institutions of the same grade. The fees payable in advance are £1. 1*s.* per quarter. The course of instruction embraces all the branches of the liberal education suitable to boys, from eight to sixteen years of age.

In connection with this mention of the High School of Edinburgh, we will introduce a few historical facts, which point back to a very early period for the origin of the system of parochial schools in Scotland. The funds out of which the edifice now occupied by the high school was built, and which was completed in 1829, at an expense of £34,199, were derived, in part, from endowments belonging to the Abbey of Holyrood, founded by David I., in 1236, with which this school was connected as early as 1500. The school came into the management of the magistrates of Edinburgh in 1566. Prior to that, a grammar school had existed in the Cannongate, under the charge of the friars of the same monastery, "past the memorie of man," as is stated in a memorial to the privy council, in 1580. In the year 1173, Perth and Stirling had their school, of which the monks of Dumfernline were directors. Authentic records introduce

us to similar institutions in the towns of Aberdeen and Ayr. The schools in the county of Roxburgh were under the care of the monks of Kelso as early as 1241; those of St. Andrew, in 1233; and those of Montrose, in 1329.

The success of the school system of Scotland is to be attributed to their being erected on a permanent and conspicuous foundation, and to that particular constitution which made the situation of the teacher desirable to young men of education, for its competent salary, permanence, and social consideration. Of the three modes of providing for popular instruction,—that in which the scholars pay every thing, and the public nothing; that in which the public pay every thing by a tax on property, or by avails of permanent funds, and the scholars nothing; and that in which the burden is shared by both,—the latter was adopted in the original plan of the Scotch schools. The existence of the school was not left to chance or charity, but was permanently fixed by law on every parish. The school edifice and the residence of the teacher were to be provided for by public assessment, as much as the church, or the public road, or bridge. The salary of the teachers was so far fixed by law, that it could not sink below the means of a respectable maintenance according to the standard of living in a majority of the country parishes.

Dr. Chalmers, in his valuable "*Considerations on the System of Parochial Schools in Scotland*," thus notices some of the peculiarities of the system:

"The universality of the habit of education in our Lowland parishes, is certainly a very striking fact; nor do we think that the mere lowness of the price forms the whole explanation of it. There is more than may appear at first sight, in the very circumstance of a marked and separate edifice, standing visibly out to the eye of the people, with its familiar and oft-repeated designation. There is also much in the constant residence of a teacher, moving through the people of his locality, and of recognized office and distinction amongst them. And perhaps there is most of all in the tie which binds the locality itself to the parochial seminary, that has long stood as the place of repair, for the successive young belonging to the parish; for it is thus that one family borrows its practice from another—and the example spreads from house to house, till it embraces the whole of the assigned neighborhood—and the act of sending their children to the school, passes at length into one of the tacit, but well-understood proprieties of the vicinage—and new families just fall, as if by infection, into the habit of the old ones—so as, in fact, to give a kind of firm, mechanical certainty to the operation of a habit, from which it were violence and singularity to depart, and in virtue of which, education has acquired a universality in Scotland, which is unknown in the other countries of the world."

The best minds of Scotland are at this time directed to a re-construction of the system of parochial schools, or to such an extension of its benefits, as will reach at once, the wants of the large towns, and of the sparsely populated parishes. Among the plans set forth, we have seen nothing more complete than the following, which is signed by some of the most distinguished names in Scotland.

"The subscribers of this document, believing that the state of Scotland and the general feeling of its inhabitants justify and demand the legislative establishment of a comprehensive plan of national education, have determined that an effort shall be made to unite the friends of this great cause on principles at once so general and so definite as to form a basis for practical legislation; and

with this view, they adopt the following resolutions, and recommend them to the consideration of the country :—

1. That while it might be difficult to describe, with a near approach to statistical precision, the exact condition of Scotland at this moment in regard to education, there can be no doubt that, as a people, we have greatly sunk from our former elevated position among educated nations, and that a large proportion of our youth are left without education, to grow up in an ignorance miserable to themselves and dangerous to society; that this state of matters is the more melancholy, as this educational destitution is found chiefly among the masses of our crowded cities, in our manufacturing and mining districts, and in the Highlands and Islands of Scotland, where the people are not likely spontaneously to provide instruction for themselves; that the quality of education, even where it does exist, is often as defective as its quantity; and that this is a state of things requiring an immediate remedy.

2. That the subscribers hold it to be of vital and primary importance that sound religious instruction be communicated to all the youth of the land by teachers duly qualified; and they express this conviction in the full belief that there will never be any enlargement of education in Scotland, on a popular and national basis, which will not carry with it an extended distribution of religious instruction; while, from the strong religious views entertained by the great mass of the people of this country, and the interest which they take in the matter of education, the subscribers can see in the increase of knowledge only an enlargement of the desire and of the capacity to communicate a full religious education to the generation whose parents have participated in this advantage.

3. That the parish schools of Scotland are quite inadequate to the educational wants of the country, and are defective and objectionable in consequence of the smallness of the class invested with the patronage, the limited portion of the community from which the teachers are selected, the general inadequacy of their remuneration, and the system of management applicable to the schools, inferring as it does the exclusive control of church courts; that a general system of national education, on a sound and popular basis, and capable of communicating instruction to all classes of the community, is urgently called for; and that provision should be made to include in any such scheme, not only all the parish schools, but also all existing schools, wherever they are required by the necessities of the population, whose supporters may be desirous to avail themselves of its advantages.

4. That the teachers appointed under the system contemplated by the subscribers should not be required by law to subscribe any religious test; that Normal Schools for the training of teachers should be established; that, under a general arrangement for the examination of the qualifications of schoolmasters, the possession of a license of certificate of qualification should be necessary to entitle a teacher to become a candidate for any school under the national system; and that provision should be made for the adequate remuneration of all teachers who may be so appointed.

5. That the duty and responsibility of communicating religious instruction to children have, in the opinion of the subscribers, been committed by God to their parents, and through them to such teachers as they may choose to intrust with that duty; that in the numerous schools throughout Scotland, which have been founded and supported by private contribution, the religious element has always held a prominent place; and that, were the power of selecting the masters, fixing the branches to be taught, and managing the schools, at present vested by law in the Heritors of Scotland and the Presbyteries of the Established Church, to be transferred to the heads of families under a national system of education, the subscribers would regard such an arrangement as affording not only a basis of union for the great mass of the people of this country, but a far better security than any that at present exists both for a good secular and a good Christian education.

6. That in regard to a legislative measure, the subscribers are of opinion, with the late lamented Dr. Chalmers, that 'there is no other method of extrication,' from the difficulties with which the question of education in connection with religion is encompassed in this country, than the plan suggested by him as the only practicable one,—namely, 'That in any public measure for helping on the education of the people, government [should] abstain from introducing the element of religion at all into their part of the scheme, and this, not because

they held the matter to be insignificant—the contrary might be strongly expressed in the preamble of their act—but on the ground that, in the present divided state of the Christian world, they would take no cognizance of, just because they would attempt no control over, the religion of applicants for aid—leaving this matter entire to the parties who had to do with the erection and management of the schools which they had been called upon to assist. A grant by the State upon this footing might be regarded as being appropriately and exclusively the expression of their value for a good secular education.'

7. That in order to secure the confidence of the people of Scotland generally in a national system of education, as well as to secure its efficiency, the following should be its main features:—1st, That Local Boards should be established, the members to be appointed by popular election, on the principle of giving the franchise to all male heads of families being householders; and with these Boards should lie the selection of masters, the general management of the schools, and the right, without undue interference with the master, to direct the branches of education to be taught. 2d, That there should be a general superintending authority, so constituted as to secure the public confidence, and to be responsible to the country through Parliament, which, without superseding the Local Boards, should see that their duties are not neglected—prevent abuses from being perpetrated through carelessness or design—check extravagant expenditure—protect the interests of all parties—collect and preserve the general statistics of education—and diffuse throughout the country, by communication with the local boards, such knowledge on the subject of education, and such enlightened views, as their authoritative position, and their command of aid from the highest intellects in the country, may enable them to communicate.

Were such a system adopted, the subscribers are of opinion that it would be quite unnecessary either for the legislature or any central authority to dictate or control the education to be imparted in the National Schools, or to prescribe any subject to be taught, or book to be used; and should a measure founded on these suggestions become law, not only would the subscribers feel it to be their duty, but they confidently believe the ministers and religious communities in the various localities would see it to be theirs, to use all their influence in promoting such arrangements as, in the working of the plan, would effectually secure a sound religious education to the children attending the schools."

In September, 1847, on the invitation of an educational association of Glasgow, a large meeting of teachers from various parts of Scotland was convened in the High School of Edinburgh, and "the Educational Institute of Scotland" was formed. The following is the preamble of the constitution:

"As the office of a public teacher is one of great responsibility, and of much importance to the welfare of the community; as it requires for its right discharge, a considerable amount of professional acquirements and skill; and as there is no organized body in Scotland, whose duty it is to ascertain and certify the qualifications of those intending to enter upon this office, and whose attestation shall be a sufficient recommendation to the individual, and guarantee to his employers; it is expedient that the teachers of Scotland, agreeably to the practice of other liberal professions, should unite for the purpose of supplying this defect in the educational arrangements of the country, and thereby of increasing their efficiency, improving their condition, and raising the standard of education in general."

Among the modes of advancing the objects of the Institute, are specified "the dissemination of a knowledge of the theory and practice of education by means of public lectures, and the institution of libraries."

Since the foregoing account of the parochial school system was written, the author has availed himself of a brief visit to that country to gather additional information respecting the means and state of education generally in Scotland. The population, in 1851, was 2,870,784, of which number, one-sixth, or about 480,000 children between the ages of four and sixteen years, should be at school a portion of the year. From the best data he could consult, there were not much more than half that number at school in the year 1852; and of those who attended school, less than one half were to be found in the parochial schools. The following is a brief summary of the different classes of schools:

I. *Parochial Schools.*—The law, since 1696, provides for one school in each of the 1,049 parishes, which is not incorporated as a Royal Burgh, by authorizing the heritors or proprietors of land to the value of £100, with the minister, to elect, and, in default of such election for four months, the county commissioners to elect a schoolmaster. The person thus elected, after obtaining from the presbytery within which the parish is situated, a certificate of his being qualified, and signing the confession of faith and formula of the Church of Scotland, is entitled to an annual salary of not less than £25, a commodious house for a school, a dwelling house of at least two apartments and a kitchen, an inclosed garden of at least one acre, or its equivalent in money, and such school fees from the parents as shall be fixed by the heritors and minister. The teacher must comply with the regulations of the presbytery, which is represented practically by the minister of the parish. The parochial school is not strictly a primary school, but in many parishes embraces instruction which belongs to the academy or grammar school, the teacher being not unfrequently a graduate of one of the universities, and many of the scholars being fitted there for the university. Neither is it a free school. The sum (£30,000) realized from school fees, in 1851, exceeded the amount raised by tax on the heritors, exclusive of the accommodation of the school-house, and the master's dwelling and garden. The whole number attending these schools in 1852 was about 75,000.

II. *Royal Burgh Schools.*—These exist in parishes included within the limits of towns incorporated by royal charter, and which are exempt from the operation of the parochial system. They are generally grammar schools, and are established by the municipal council, and supported partly by endowment or municipal grant, but principally by school fees. The whole number of Burgh Schools does not exceed 90, with about 5,500 pupils.

III. *Sessional Schools.*—These are confined to the populous parishes, and are established and supported by the Kirk session, in addition to the parochial school. In 1851, there were 104 Sessional schools, with 11,892 scholars.

IV. *Assembly Schools.*—Since 1824, the General Assembly has maintained, out of a system of church collections, schools in destitute districts, principally in the Highlands and Islands. In 1851, there were 118

schools in these districts, and 44 in other parts of Scotland, maintained by the Assembly, besides 14 female schools, with an attendance, in all, of over 14,000 pupils. Besides these schools, the Assembly maintains two normal schools, one at Edinburgh, and one at Glasgow, erected at an expense of over £25,000, ($125,000) in which 137 teachers were in training.

V. *Society Schools.*—To aid certain localities, not reached by the parochial system, societies have been formed. The earliest of these, was the "*Society for Propagating Christian Knowledge,*" commenced in 1701, and having now a permanent fund of over £100,000, the annual income of which supports or aids about 230 schools. The *Gaelic School Society* in Edinburgh, and an auxilliary society in Glasgow, maintain about 80 schools for poor children of Highland parentage.

VI. *Adventure or Private Schools.*—In all large towns, schools are established by private teachers at their own risks, and dependent on the fees or tuition of the scholars. They originate in the real or alleged demand of additional accommodations to those provided by law, or by various religious communions, or for a better or at least a different kind of instruction.

VII. *Orphan Houses and other Endowed Schools.*—Besides the richly endowed hospitals and asylums for orphan children in Edinburgh and other cities of Scotland, there are other large endowments for the permanent support of ordinary elementary and grammar schools. These endowments yield an income of over £50,000, and support over 100 independent schools,* besides augmenting† the salaries of a still larger number of teachers.

VIII. *Schools in connection with the Free Church.*—The disruption of the Church of Scotland, and the separate organization of the Free Church, has led to prodigious efforts on the part of the latter to establish a system of schools in connection with the churches in its communion. The system embraces a college, with special reference to theological education, two normal schools for the training of teachers, a grammar school in every large town, an elementary school in connection with every church, and subordinate schools and evening classes in large congregations, and missionary schools in destitute localities. The expense is borne by a general education fund, made up of annual collections, and applicable to building purposes, and a schoolmasters' sustentation fund, in aid of teachers' salaries. The results of this movement are not fully developed—but it has absorbed into the connection of the Free Church many adventure or private schools, and thus placed them

* Among these may be mentioned Milne's Free School of Fochabers The founder of this school was Alexander Milne, who was born in Fochabers, but amassed an estate of £100,000 in New Orleans, which he bequeathed by will to found a Free School in his native place, for the benefit of the parishes of Bellie and Ordiish.

† James Dick, born at Forres, at his death, bequeathed an estate of over £118,788, the income of which is applied to the augmentation of the salaries of parochial schoolmasters in the counties of Aberdeen, Banff, and Moray.

under better supervision, and on a more certain foundation; and, at the same time, while it has multiplied schools in destitute districts, it has weakened the efficiency of the parochial and assembly schools by establishing competing schools in the same neighborhood. In 1851, the schools in connection with the Free Church and aided by its fund were as follows:—

424 Congregational schools—schools connected with particular congregations, and receiving aid from the Schoolmasters' Sustentation fund of the Church.
174 Side or district schools.
13 Municipal schools—planted in destitute localities.
5 Grammar schools.
2 Normal schools.
618 Schools, with 689 teachers, and 67,956 pupils, toward which the Educational Committee of the Church contributed £14,000, or about $85,000, in the year 1851. The sum contributed in school fees and local subscriptions to these schools exceeds £15,000, or $70,000.

To the pupils attending the above schools, the committee add 15,000 children attending evening schools, making 73,387 scholars under the general supervision and influence of the Free Church in 1851.

IX. *Schools in connection with the Scotch Episcopal Church, the United Presbyterian Churches, and the Roman Catholic Church.*—The disruption of the Free from the Established Church of Scotland, has led to efforts on the part of the different religious communions to establish separate denominational schools, and has awakened public attention to the religious tests and other features of the parochial system which are inconsistent with the claims of different denominations to an equality of civil privileges. The statistics of these denominational schools in 1852 were as follows:—

United Presbyterian Church has	54	schools,	with	5,009	scholars.		
Scotch Episcopal	"	"	68	"	"	5,900	"
Roman Catholic	"	"	40	"	"	5,000	"
Other denominations have			15	"	"	1,000	"

In addition to the educational bequests mentioned in the Note on the foregoing page, the following may be cited:—

George Heriot, celebrated by Sir Walter Scott as the "*Jingling Geordie*" of James VI., was borne in 1563. He succeeded to his father's business as a goldsmith, in one of the booths then and for long afterwards attached to St. Giles' Church.

In 1597, he was appointed goldsmith to Ann of Denmark, the Queen Consort, and in 1601, jeweler to the King. The Queen was very fond of jewelry for her own use, profuse in presents of it to others, and very changeful in her taste for particular articles. In all these respects she was naturally followed by the court circles of the time.

On the removal of the court to London, Heriot, who accompanied it, found a greatly enlarged field for his business, as well as more wealthy

customers. He was also a money lender, as it was then usual for men in his business to be, and before his death had amassed a considerable fortune.

Soon after his death his money, with the exception of some legacies, was invested, as he had previously wished, in the purchase of land in the immediate vicinity of the city of Edinburgh. The subsequent value of the property, as the site mainly of the new town of Edinburgh, countenanced a greatly exaggerated estimate of the original bequest, which was somewhat less than 24,000*l.*, though the annual income is now not less than 16,500*l.*

Nothing was at first contemplated, or till 1846 thought of, beyond the hospital, which bears the name of "*Heriot's*," and which was the first of the kind in Scotland. The model in the founder's mind was the Blue-coat School in London.

Instead of extending the hospital itself, as had been contemplated, an Act of Parliament was obtained to build and maintain out-schools on the Heriot foundation. These were not to be of the hospital kind, but ordinary day-schools, for the class of children that usually attend the Sessional and other schools, provided in large towns for the children of the laboring classes. The children are neither lodged, fed, nor clothed, but receive their education *gratis on condition of regularity of attendance.*

The sites have been selected in the most densely-peopled quarters of the town. Twelve have now been erected; eight for boys and girls, and four for infants.

Andrew Bell, whose name is well known as opposed to that of Lancaster in the controversy regarding the merit of originating the monitorial system, left his fortune, with the exception of special legacies, in two large bequests, for the purpose of carrying out those educational views which he had gradually been led to consider as of the utmost importance to the whole human race.

One deed, dated May, 1830, conveyed in trust to the then provost of St. Andrew's, the two ministers of the town church, to be followed by their successors, and to Professor Alexander, to be followed by the Sheriff Depute of Fife, and his successors in office, 120,000*l.*, to be employed in the erection and maintenance of schools on the Madras, or monitorial system. Of this sum 60,000*l.* was allotted to St. Andrew's, 10,000*l.* to Edinburgh, 10,000*l.* to Glasgow, 10,000*l.* to Leith, 10,000*l.* to Aberdeen, 10,000*l.* to Inverness, and 10,000*l.* to a Naval school in London. As an equivalent to 10,000*l.*, the estate of Egmor, valued at 400*l.* a year, was left to Cupar of Fife for a similar purpose.

Another deed conveyed the residue of his estate, with special and general directions, to other trustees, of whom Lord Leven and Mr. Cook, W. S., are now the acting parties. This yielded at the time about 25,000*l.*, which has been considerably increased by accumulations from interest.

XII. SUBJECTS AND METHODS OF EARLY EDUCATION.*

BY JAMES CURRIE, A. M.

Principal of the Church of Scotland Training College, Edinburgh.

I. INTRODUCTION.—GENERAL CHARACTER OF THE INSTRUCTION.

1. PHYSICAL exercise for the healthy growth and relaxation of the body; exercises of observation, conception, and imagination, for the mind; and moral and religious lessons for the cultivation of the heart, are the principal engagements of infancy, and, therefore, of the infant school. Under physical exercise we include the right regulation of the physical circumstances in which the child receives his instruction, which, though he is outwardly passive under them, very greatly influence the tone of his mind and feelings; physical exercises, strictly so called, requiring positive bodily exertion, such as he is subjected to in the school-room; the recreation of the play-ground, where, in full apparent freedom, he is yet under superintendence; and, lastly, singing, which in one aspect of it is one of the keenest of all the physical incitements to the general work of the school. Exercises of observation and conception are given by means of things or objects such as the eye can see, the hand handle, and the ear hear; their appearance to the eye in color, form, and size; to the touch in weight, hardness, and other qualities; to the ear in sound. As a distinct exercise of observation by this last sense, is to be mentioned the combination of musical sounds by singing. Exercises of imagination are found in the elementary geographical lesson, in which the pupil is required to group natural things, such as he has already observed, variously as to place; and in reading or relating stories of real or imaginary life. Moral and religious instruction comprises doctrines or points for belief in morality and religion; feelings to be cherished, and actions to be practiced. This kind of instruction may for the most part be best given in the form of incidental reflections throughout the daily work, and exercises of devotion.

2. The instruction of the infant school is carried on through the medium of familiar conversation between the teacher and his pupils.

* From "*Principles and Practice of Early and Infant School Education.*" Edinburgh Thomas Constable & Co.

They can not read when they begin their course; yet they have powers which are eager for activity. The most advanced of them, though they may be able to read very easy narrative, have not that facility that enables them to extract information from what they read; and, even if by the teacher's help they can turn this to account, they ought to know, and they are able to know, much more than this source can supply them with. It is most unnatural to make their reading-power the measure of their intellectual activity. It is by conversation upon actual objects and feelings that the parent first calls forth the glimmering intelligence of the child; so it is by conversation, or, to call it by its technical name, oral instruction, that the teacher is to continue the process which the parent has begun. By this method alone is it possible to give the child a stimulus to attention; for it interposes nothing between the child and the living voice of his instructor to prevent the full play of that mutual sympathy which is the very breath of the school life. By this method alone is it possible to give an impulse to his observation, imagination, curiosity; for it submits interesting things to his inspection, while it humors his volatility by turning aside to notice any thing that attracts his own notice by the way. And by this method alone is it possible to engage the child in full activity without restraining his freedom; the teacher presents to him things of which he already knows something, and, speaking to him as a friend and companion rather than as a preceptor, easily draws from him the knowledge he is so willing to show.

3. There is another aspect of this oral instruction not less important; it is our great means for giving the child the use of his mother-tongue. When the time comes for the parent to initiate the child in this, she does not make "set" lessons on language; she speaks to him of things and feelings in which he will be interested, knowing that in learning of these he is learning to speak.* The teacher must proceed in the same way. Language is nothing apart from ideas; words must be taught to the infant in connection with things. This aspect of oral instruction is frequently forgotten in the infant school; otherwise, it would not be thrust into the subordinate place it is often found to occupy. In oral instruction, whatever subjects it deals with, the teacher should remember that he is training the child to language. He must engage each one, therefore, in conversation; he must vary the subjects of conversation, as each subject has a vocabulary particular to itself; he must watch attentively to secure a gradual increase of power over words, content at first, perhaps, with their utterance of single words, but looking, by and by, for phrases, and then easy sen-

* See Girard, chap. i.

tences. Nor must he be wearied with repetitions, as the children are just beginning their exercises in language, and require long and varied practice to learn its endless variety of forms. Whilst oral instruction is the rule in the infant school, it is pre-eminently the want of the youngest infants. The teacher may observe in the elder pupils some diminution of interest in the oral lessons; this is one of the symptoms that the time has come for advancing them from the infant school. They have now got a practical command over speech which serves them for all ordinary purposes; and they not only require, but feel a desire for, the new field of exercise which book-instruction gives. But the younger children have no such command of language; and what they want most is such a knowledge of the names of common things and actions as shall enable them to characterize these when they see them, and to hold intercourse with their fellows regarding them. Hence their acquisition of language goes on with great rapidity. The younger the children, therefore, the more should they be occupied by oral instruction.

4. What are we to say of book-learning, which in point of fact occupies a place in all infant schools? The power to read with intelligence is the greatest benefit which school-education bestows upon us; for this enables us to educate ourselves in after-life. Not unnaturally, therefore, the reading-lesson occupies the principal place in the common school. It does not follow from this, however, that it should hold, as it is commonly made to hold, the principal place in the infant school; for the proper study of it requires certain powers which the child in the first period of his education does not possess. It is self-evident that reading is an effort for the child, whilst conversation is not. Even to read mechanically is so. It is impossible for him to fix his eye upon a page, and to thread his way from word to word, and from line to line, in their close succession, without feeling a strain upon the nerves of sight, and through them upon the brain, which has only to be prolonged to do him serious injury. To read with intelligence is a double or complex effort. It includes all the effort necessary for mechanical reading, and in addition the effort which is necessary to keep the mind moving at the same rate as the eye. The mechanical motion tends from the first to outstrip the mental; and the effort to keep them together is the most painful to which the infant can be subjected. The brain is under a twofold strain; that from without through the nerves of sight, and that from within proceeding from the reflex action of the mind upon it. Well has it been said that "it is not so much the actual process of learning to read as the consequences of being able to read during early years

that are to be guarded against." From physical considerations, then —which dictate the fundamental law in infant education—we conclude that is imprudent to have the child's attention fixed for any considerable portion of a day on a book.*

5. Systematic reading from books should be delayed till the child becomes physically capable of a little conscious effort, which it does about four and a half or five years of age; that is to say, it may be carried on during the last year and a half or two years of his infant-school attendance. There would be no harm in delaying it even till the very end of this period; his progress would be all the more rapid when he did begin. But on this point the teacher may defer to the desires of parents, provided he do not urge forward the child too much with the reading-task, by keeping him at his book over an immoderate proportion of his daily time. During the first half of his infant-school attendance, the child should be prepared for learning to read rather than engaged in reading. His oral instruction will put him in possession of a large number of words with their applications; without which it is altogether a solecism to engage him with written language. It can also make him acquainted with the forms and sounds of all the most familiar words of the language, and with the elements of words, in connection with the *things* which it speaks to him about, not only without tasking him, but by way of amusement.

With these limitations we may consent to reckon the reading-lesson as one of the occupations of the infant school.

6. The following table presents at one view the different parts of the school-work :†—

PHYSICAL,	1. Healthy condition of the school-room. 2. Physical exercises in school. 3. Recreation in play-ground. 4. Singing.

* The limits to the use of books in infancy are nowhere better defined than in the work on *Home Education*," above referred to, chap. iv., which should be carefully read by the student. "Not a syllable of book learning," says the author, "need have been acquired, and scarcely a task learned, and yet the mind of a child in its fifth year, may be not merely in a state of the happiest moral activity, but may be intellectually alive, and actually possessed too of various information concerning the visible universe; and he may have made acquaintance with whatever presents itself under a pleasurable aspect, (and assuredly nothing but what is agreeable should be presented to the infant mind.") Speaking of the labor of the child in reading with intelligence, he says, "There is a particular jar [between the motion of the eye and that of the mind,] a want of synchronous movement, and a sense of distress, and a strain which quickly exhaust the power of attention; or if persisted in, impair the brain. . . . It is certain that the ruddy vigor of high health will almost always be found in inverse proportion to the hours in the day, during which a child has a book before his eyes."

† On the general character of early instruction, Marcel has an excellent chapter in his work on "*Language*." See book iv. chap. i.

Intellectual,	1. Objects. 2. Number. 3. Color and form. 4. Sound. 5. Geography. 6. Reading and reciting to pupils. 7. Reading and spelling.
Moral and Religious,	1. Doctrines and points for belief. 2. Duties. 3. Incidental instruction. 4. Devotions.

II. PHYSICAL CIRCUMSTANCES OF INSTRUCTION.

7. It is the first and constant duty of the infant-school teacher to attend to the regulation of physical influences. He has to deal with a large number of children, of tender age, of different temperaments and degrees of health, keenly susceptible of external influence on their bodily frames, and liable to suffer from even slight irregularities. A disregard of the plainest laws of health in the school-room must, in the end, affect the health of the children; in the meantime it prevents them deriving any benefit from the work in which they are engaged. For his own sake, too, the teacher must be mindful of these laws. If he is depressed in spirits, not to say enfeebled in health, the whole school suffers. One day's work in a close room may not affect him much; but no constitution can resist the effect of a continuance of this over several years. It is in the fact that such influences operate almost imperceptibly that his danger lies. Let the sanitary state of his school-room, then, be his first thought when he enters it in the morning; and let his thoughts recur to this at the end of every lesson.

8. First in order of importance is ventilation. The school must have a steady supply of fresh air throughout the day. The symptoms which indicate neglect of this are very plain. Perhaps the teacher may often be conscious of a dimness of eyesight, a giddiness of head, a general languor and drowsiness which nothing can shake off and for which he can not well account; it is probable they are largely owing to his working in impure air. Many continue even to bear headaches, sickness, or sore throat, without ever suspecting that these are owing to the same cause. If such be the effect on the teacher, is it to be supposed that the children will escape? Their countenances and the tones of their voice are some index to the state of the school. And if the teacher will scrutinize these, as he should accustom himself to do, he will be kept from error in this matter. It is not enough that the air be fresh in the morning; or that the windows be opened and closed fitfully throughout the day, just as acci-

dent may direct his attention to the subject, or that there be one stereotyped degree of ventilation throughout the year; this is a matter that requires attention from hour to hour, and from day to day, according to wind and weather. An atmosphere which is fresh in the morning very soon becomes vitiated unless it is changed, and the teacher may not be conscious of its condition; he can not do better than go outside occasionally for the sake of comparison.

9. Another important feature is the keeping up of a proper degree of temperature in the school-room. Every school should have a fire; and the teacher should regulate it throughout the day. Where there is neither fire nor stove, we need hardly wonder that the windows should be kept close to obtain warmth. Both extremes of temperature must be avoided. If the temperature be kept habitually too high, the children will become nervously sensitive of cold. At the same time the air may be fresh and yet injuriously cold. Particularly are drafts to be avoided. As many schools are constructed, it is hardly possible to avoid these. A class should not stand immediately under an open window or behind a door.

10. The management of light is not so much attended to as it ought to be in schools. A dull, dingy room, in which the eye has to strain itself to discern objects, must depress the elasticity of children. On the other hand, a body of bright light, streaming into the faces of a class, can not but produce restlessness and inattention. If the windows are not well placed for the distribution of light, the teacher may, perhaps, modify their effects by regulating the state of the blinds. An infant school should be a light, cheerful place.* A stone-color is most suitable for the walls.

11. Children in the infant school are not capable of much tension, either mental or bodily. A great deal of inattention is often attributed to willful trifling, which would be more justly traced to the teacher's disregard of the physical capacity of the children.

The hours of school attendance should not be long; never exceeding four daily; distributed thus, two hours in the forenoon, and two in the afternoon, with an hour's interval; or better, into three sittings of an hour and twenty minutes each with two intervals of three quarters each, if the circumstances of the school admit of it. Whatever children can do in school, they will accomplish within these hours; to prolong their attendance to five or six hours, instead of aiding their progress, will only injure their health. Parents are often found to

* The management of light and ventilation is referred to in some of the inspector's reports, in the "*Minutes of Council*," e. g., Rev. M. Mitchell's, 1853-54, and 1855-56, and Rev. Mr. Bellair's, 1855-56.

desire this longer attendance; but the teacher must be guided neither by their ignorance nor their selfishness, but by his own consciousness of what is right in this matter; for it is he alone that would have to bear the responsibility in the event of any child being injured.

12. Every morning and afternoon should be occupied by various lessons. A lesson should not average in duration more than a quarter of an hour, and on no account exceed twenty minutes. It is hard enough to sustain the attention even for this period, and no child will be able to retain more than we can tell him within it. The teacher should subdivide his lesson rather than trespass beyond this limit. Lessons of different kinds, *i. e.*, occupying different senses, should follow each other; this is a great relief. It is absurd to speak of these frequent changes as causing loss of time.

13. Not more than three-fourths of each morning and afternoon period should be devoted to instruction which involves mental occupation. It is necessary to have short intervals between the lessons for physical relaxation; which is given either by a general change of position in the classes throughout the school, accompanied with marching, or by special bodily movements. Further, it may sometimes be necessary during the lesson to recall the wandering thoughts of one or of all by such movements for a few seconds; the teacher may easily read in the countenances of the children when such a stimulus will be beneficial. Too much either of sitting or of standing is objectionable; they must alternate. Variety in every species of activity is the rule of the infant school.

14. There is an endless choice in the selection of physical exercises; body, legs, arms, and fingers, may all be called into requisition. Bending of the body, a sudden passing from a sitting to a standing posture and *vice versa*, easy gymnastic movements of the arms, beating time with the feet, action amongst the different fingers, and imitation of the trades, are the most common. The secret of success in these is alertness in calling for them and in varying them rapidly and decidedly. They should be performed by the children, partly at word of command, but chiefly in silence, by imitation, with eyes fixed on the example of the teacher.* Free and confident motion is indispensable in the teacher whilst giving them; they will fail unless the children see and feel the influence of this. Smartness in giving these exercises is not the least of the accomplishments of the infant-school

* "And pupil teachers, if any, be present." It may be observed that these exercises are better done when *all* the assistants in the room take part in them. The children seem to expect that all present should join with them. This is the effect of sympathy. For the various physical exercises that may be given, either in school or in play-ground, see "*Exercises for the Improvement of the Senses*," (L. U. K.,) Part III.

teacher; it turns into an aid to discipline that disinclination to remain still which would otherwise disturb him. The only limitation to them is that they should not be ungraceful in themselves, or unduly noisy, or tend to produce any kind of discomfort in the class-room. Those are particularly suitable which from the rhythm of their motion admit of being accompanied by singing; of which marching is the most prominent.

15. We shall do no more than simply notice here the exercises of the play-ground, as the provisions for these will require us to speak of them more minutely afterwards. The proportion of play to work must in the case of infants be very large. The usual daily hour of interval is not enough for the purposes of training; but circumstances often make it impracticable to give more. As already indicated, the work should be twice broken by recreation; a third opportunity may be had before the children enter school in the morning. They should return home immediately, however, after the last school hour. As the play-hour serves both to give recreation to the children and to afford room for the exhibition of their dispositions in actions toward each other, it should be given under superintendence.* Such a watchfulness would serve no good purpose with advanced pupils, but the reverse; young children, however, do not feel it to be any restraint on them.

16. Finally, singing is a physical exercise of wonderful power in relieving the more serious work of the school. All must observe its calming influence after exertion, and its cheering preparative influence on exertion yet to be undergone. It is like the ventilation of the mind; giving an outlet for the oppressed and pent-up feelings of the child, the hearty utterance of which is at all times refreshing. The younger children are, the more and the more frequent the necessity for the relaxation thus afforded; there can be no successful management of the infant school without it. We shall afterwards have to notice its value as a branch of instruction; what we insist on at present is its value as an instrument in a skillful hand for keeping alive the tone and activity of the school.

III. INTELLECTUAL INSTRUCTION.

1. *The Object-Lesson.*

17. We are not to confound, as is very often done, the object-lesson of the infant school with the lesson on "common things," as that phrase is now generally understood. The latter, strictly speak-

* Hence the name of "uncovered school-room," which Mr. Stow has applied to the play-ground.

ing, is not designed for the infant school at all; the purpose of it is to give a certain amount of practical information about the things and processes of every-day life to children sufficiently advanced to turn it to account. The object-lesson of the infant school has quite a different purpose. Its predominant aspect is the mental exercise it gives; it is meant to awaken the intelligence, and to cultivate its different phases of observation, conception, and taste, without which little satisfactory progress can be made in their future education. It is a disciplining, not a utilitarian, process; the information it gives is a means, not an end.

18. The range of this department of instruction is exceedingly comprehensive. It draws its materials from all the branches of knowledge dealing with things which can interest the child or exercise his mind. Thus, it is Natural History for children; for it directs their attention to animals of all classes, domestic and others, their qualities, habits, and uses—to trees, and plants, and flowers—to the metals, and other minerals, which, from their properties, are in constant use. It is Physical Science for children; for it leads them to observe the phenomena of the heavens, sun, moon, and stars, the seasons, with the light and heat which mark the changes of the weather, and the properties of the bodies which form the mass of matter around us. It is Domestic Economy for children; for it exhibits to them the things and processes daily used in their homes, and the way to use them rightly. It is Industrial and Social Economy for children; for it describes the various trades, processes in different walks of art, and the arrangements as to the division of labor which society has sanctioned for carrying these on in harmony and mutual dependence. It is Physiology for children; for it tells them of their own bodies, and the uses of the various members for physical and mental ends, with the way to use them best and to avoid their abuse. It is the "science of common things" for children; for it disregards nothing which can come under their notice in their intercourse with their fellows or their superiors. And, finally, as we shall afterwards see more distinctly, it is Geography for children; since it has favorite subjects of illustration in mountain and river, forest, plain, and desert, the different climates of the earth, with their productions and the habits of their peoples, the populous city, and the scattered wigwams of the savage.

19. All the things fit to be treated of in the object-lesson may be said to be "familiar things;" at the same time, the phrase must not be too narrowly interpreted. We can not consent to confine our instruction to things which the child has the opportunity of actually seeing. By familiar things we are to understand all those things on

which he can exercise his mind in the way which is familiar to it. For example, amongst animals, the lion, the camel, the elephant, and the reindeer afford scope for reasoning of as familiar a kind as the horse, the sheep, or the dog. In the vegetable world, similar remarks may be made on the tea-plant, the sugar-cane, and the cotton-plant, relatively to the potato, the turnip, and flax—upon rice and maize relatively to barley and wheat—on the palm-tree and the cedar relatively to the fir and the oak. All the child's observation of things at home, of the materials for food, clothing, building, or industry, prepares him for observing the corresponding things in other lands, and is in turn greatly enlightened by this extended observation. Of course, things around him claim his first regard; that is not, however, because the reasoning about them is easier, but because the observation of them is more palpable and definite, and it is observation that is to be first exercised. As soon as he can reason at all, his imagination must be sent abroad. There is no force in the argument sometimes employed that his attention should be confined solely or chiefly to things about him on the ground that he may not be long at school, or that his future occupation may throw him into the midst of these. The mental exercise of the infant school must be held to be independent of such considerations of time, place, or professional prospects.

20. The features common to all infant-school teaching will be noticed further on; so that, with regard to the method of the object-lesson, it need be only here stated that, as it has in view the cultivation of the conception and the higher faculty of relation, so both of these faculties must be exercised in their proper time and degree. The former can not be furnished and stimulated, unless the object be actually subjected to the observation of the class, and that not to one sense only, but to all that are available. It is not enough, for instance, that in a lesson on "glass," the teacher should simply hold it up before the class, and on the strength of his own observation proceed to state its properties. It is *their* sight, and touch, and hearing, that are to be exercised; so that he should first show it, then put it into the hands of the children to feel it, and then ring it on the table. This is often neglected, just because it seems needless; thus it may seem enough if the teacher squeeze a sponge to show that it is soft and elastic, or if he handle lead to show that it is heavy. But this is only an exercise of sight to the class; tactual as well as ocular inspection by some, if not by all, must be allowed. How far the reasoning of a child may be carried, and in what way it is to be exercised, has been indicated already.

21. One great use of the object-lesson is to cultivate the conceptive faculty in connection with language; for which purpose it should, from first to last, present much of the descriptive part of our vocabulary, dealing first with those terms that denote qualities broadly recognizable, before descending to the finer shades. The describing and the naming the qualities of things is thus quite a legitimate resource in these lessons; still, as bodies possess the same qualities frequently in common, there is great danger of the object-lesson falling into a barren monotony of plan. To remedy this, the teacher will observe, (1.) that the universal qualities of bodies, or those which are nearly so, such as *useful*, *opaque*, *inanimate*, need be very seldom mentioned; (2.) that when qualities are given, there should be a *real* exercise of observation given with the name (§ 20;) and, (3.) that the mentioning of these qualities should not, in the general case, constitute the whole of the lesson, but that other facts should be communicated, which are interesting to be known, and which exercise the imagination, the sense of beauty, and the moral feelings. This will prevent the verbal aspect of the lesson from obtaining too great predominance over the real.

22. A very common, though little noticed, practical error in the giving of object-lessons, is the neglect to distinguish the different stages in the advancement of the children to whom they are given. An infant of four years is a very different being, intellectually, from one of six or seven; and can only to a very small extent follow a lesson addressed to him. Even in dealing with things we shall not secure the child's attention, unless we select things which interest him, and unless we address him in a suitable way. Perhaps we may distinguish three stages of the object-lesson. In the first, the pupil is required to distinguish objects by their names, to notice their parts, their color, and, a little later, their simpler properties, such as form and size; in the second, the lesson should deal chiefly with qualities and uses of things; and in the third, with a more formal statement of the various relations in which things stand to each other, resemblance, causality, &c. These three stages may correspond approximately to the first year of attendance at the school, the second year, and the third year or part of year.

23. The following list exhibits a variety of subjects suitable for the first stage:—

1.—*Natural History.*

Sheep.	Bear.	Bee.	A Tree.
Cat.	Wolf.	Ant.	Rose.
Dog.	Fox.	Spider.	Lily.
Horse.	Hen.	Butterfly.	Daisy.

Cow.	Goose.	Herring.	Dandelion.
Donkey.	Duck.	Haddock.	Potato.
Goat.	Swan.	Crab.	Turnip.
Rabbit.	Crow.	Whale.	Carrot.
Hare.	Sparrow.	Worm.	Cabbage.
Pig.	Swallow.	Adder.	Grass.
Deer.	Robin.	Snake.	Leaves.
Mouse.	Pigeon.	Mussel.	Apple.
Lion.	Parrot.	Whelk.	Pear.
Elephant.	Pheasant.	Oyster.	Cherry.
Camel.	Common Fly.	Snail.	Berries.

2.—*Domestic Economy.*

Different kinds of Houses.
" parts of a House.
" kinds of Roofs.
Things used in Kitchen.
" " Parlor.
" " Bedroom.
Things for sitting on.
" lying on.
" eating with.
" drinking with.
Breakfast-Table.
Dinner-Table
Tea-Table.
Articles for Breakfast and Tea.
" Dinner.
Things for washing with.
Parts of our Clothes.
Vessels for holding things.
A Fire.
Utensils for Fire.
Making of Tea.
" Coffee.
Porridge.
Bread.
Candle.
A Bed.

3.—*Physiology.*

The Body.	The Eyes.	Hearing.	Swimming.
Arms.	Mouth.	Seeing.	Standing.
Hands.	Nose.	Feeling.	Breathing.
Fingers.	Ears.	Smelling.	Sleeping.
Legs.	Throat.	Tasting.	Dreaming.
Feet.	Skin.	Running.	Singing.
Toes.	Bones.	Leaping.	Dancing.
Head.	Blood.	Walking.	Drinking.
Face.	Voice.	Hopping.	Eating

4.—*Industrial and Social Economy.*

Things for writing with.
" sewing with.
The Cabinetmaker's Shop.
Baker's "
Grocer's "
Butcher's "
Shoemaker's "
Tailor's "
Painter's "
Fruiterer's "
Smith's "
The Farm.
Garden.
Ship.
Sailor.
Letter-Carrier.
Soldier.
The Railway.
What their parents do in a day.
" brothers "
" sisters "
" themselves "
Materials for Clothing.
Leather.
Materials for Building.
" Furniture.
Making Stockings.
The School.
Work of the School.
The Family Circle.
One's Relations.
Things of Stone.
" Iron.
" Tin.

5.—*Common Things.*

Cart.	Clock.	Gas-light.	Nails.
Table.	Watch.	Drawers.	Thread.

Chair.	Picture.	Slate.	Rope.
Stool.	Window.	Ink.	Pen.
Couch.	Book.	Pins.	Quill.
Railway Carriage.	Scales.	Needles.	Shilling.
A Letter.	Bottle.	Scissors.	Egg.
Money.	Blackboard.	Thimble.	Penknife.

6.—*Physical Appearances.*

Aspects of Sky.	Aspects of Water.	Aspects of Winter.
" Sun.	" Vapor.	" Thunder and Lightning.
" Moon.	" Ice.	" Rainbow.
" Stars.	" Heat.	" Day.
" Rain.	" Cold.	" Night.
" Snow.	" Spring.	" a Storm.
" Clouds.	" Summer.	" a Calm.
" Wind.	" Autumn.	

Supposing an object-lesson to be given daily, the list of subjects now presented, making allowance for the geography object-lessons which are not here included, is large enough for a year's work; and it may readily be increased.

24. For the second stage or year, many of the foregoing subjects might be repeated, and information given on a larger scale; whilst a further selection of common objects should be made to exemplify the qualities of bodies and put the pupils in possession of descriptive terms. The following list is sufficient to exemplify all the more familiar qualities; it may be enlarged or varied at the teacher's discretion:—

Cork.	Salt.	Paste.	Silk.
Leather.	Whalebone.	Slate.	Barley.
India-Rubber.	Sand.	Coal.	Rice.
Sponge.	Bread.	Soap.	Pepper.
Glass.	Lead.	Horse-hair.	Ginger.
Iron.	Copper.	Feathers.	Rose.
Wood.	Gold.	Clay.	Hawthorn.
Water.	Tin.	Oil.	Tea.
Paper.	Mercury.	Vinegar.	Coffee.
Common Sugar.	Honey.	Chalk.	Milk.
Loaf-Sugar.	Gum Arabic.	Earthenware.	Balloon.
Wool.	Starch.	Putty.	Air-bubble.
Sealing-Wax.	Glue.	Wire.	Bladder.

After some practice in the observation of qualities inherent in particular objects, the idea of the quality in the abstract will gradually form itself, and the ground may be gone over again in reverse order. Thus a quality may be selected, *e. g.*, heavy, hard, smooth, brittle, elastic, tough, liquid, viscid, fibrous, pliable, fusible, porous, inflammable, or the like, and various objects which have the quality brought together, and the uses to which they are put in virtue of the quality slightly noticed.

25. In the third stage, the pupil is required to trace relations more,

particularly of resemblance and of connection by way of cause and effect. Such relations have not been altogether unnoticed in the middle series of lessons, but the teacher has greater latitude now. Most of the subjects of the second year are quite serviceable still; for there are many points connected with the form and utility of these which the pupil has not yet been able to comprehend. Bearing in mind that it is more in the tracing of incidental connections that the sense of relation is cultivated at this period than by the antithetic statements of the explicit comparison, the following list presents subjects in the latter exercise for which the pupils may be deemed quite competent:—

Dog and Cat.
Dog and Wolf.
Dog and Fox.
Newfoundland Dog and Shepherd's Dog.
Cat and Tiger.
Rabbit and Hare.
Bee and Wasp.
Snail and Whelk.
Duck and Goose.
Swallow and Sparrow.
Coverings of Birds.
Wool and Hair.
Nails and Claws.
Needle and Pin.
Pen and Pencil.
Steel-pen and Quill.
Knife and Penknife.
Cart and Wheelbarrow.
Shilling and Penny.
Cotton and Wool.
Clock and Watch.
Grate and Stove.
Snow, Hail, and Ice.
Hand and Foot.
The Teeth.
Hoof of Horse and of Camel.
Whale and Fish.
Thumb and Forefinger.
Bird and Quadruped.
Animal and Plant.
Plant and Mineral.
Tree and Shrub.
Common Shrubs.
" Flowers.
" Wild Flowers.
" Trees.
" Shells.
" Esculents.
Different states of Weather.
" kinds of Clouds.
" " Fuel.
" " Bread.
" " Soap.
" " Sugar.
" " Coal.
" " Glass.
" " Nails.
" " Stockings.
" " Lamps and Lights.
" " Gloves.
" " Locks and Keys.

26. The following are examples in outline of the different kinds of lessons suitable for the younger infants—the successive points for illustration being indicated in italics:—

I. The Sheep.

Subject of lesson familiarly introduced—animal you often see passing you on streets, a great many going together, what can it be? The *sheep*. Where going to? the *market*, to be *killed—poor* sheep—*flock* explained—the *shepherd* in charge—the *dogs*.

Where did they come from? the *fields*—in the *country*—where the *grass* grows—the *green* grass—which the sheep *eat*. Did you ever see them in the field? What doing? *walking about—lying down*, sometimes at the *wall*, sometimes *under bush—eating*.

Were you ever near one? how *afraid* it is—how *big* is it? bigger than the

eat? its color *white*, sometimes *black*. How it feels when you *touch* or *handle* it—*soft* all over, from the *wool* on its *back*. How many legs? What they are like, and its little feet? *marks* left by a flock on the street or road. Its *face*, *ears*, &c., sometimes *horns;* and with the horns they sometimes *box*—(if the season be spring, the *lambs* should be noticed.)

The sheep is very *gentle* and *timid*, and *hurts* no one—little children sometimes *throw stones* at it, which is very *wrong*—they should be *kind* to it.

II. A Bed.

Willie—was sleeping a short time ago; what made him do so? he was *tired*. Should we let him *sleep long?*

The *use* of sleep—how *every one*, their fathers and mothers, brothers, sisters, &c., need it. *What* makes us sleep? the *time* for it?

What we sleep in? a *bed*—put off our clothes, for we are to sleep *till morning*—what is in the bed? *blankets* for warmth, *sheets* to be *nice and clean*—*coverlet*, perhaps white or blue—the *mattress* thick and soft below.

We should be *thankful* to have comfortable beds to go to at night—some *have not*—*God gives* us this and all good things—what should we *do when we* go to bed? *Ask God* to take care of us through the night—and when we rise.

III. The Mouth.

Refer to previous lessons (perhaps) on face, eyes, nose, &c. What more to be seen on the face—look at your neighbors' faces—*mouth*.

Open your mouths, shut them, point to them—different things the mouth is for—*eating* when we are *hungry*, *drinking* when *thirsty*, *singing* when *merry*, *yawning* when *sleepy*, *speaking* when we have *any thing to say*, &c.

Many things in mouth—*tongue*, which is soft—move them—little children sometimes *put out their* tongues, which is *naughty*—the *teeth* for *chewing*, *e. g.*, bread, flesh, &c.—many of them *small* and *white*, and sometimes they *come out*—and for *shutting* the mouth we have *lips*.

We should take care what we *put into* our mouths—little children sometimes *hurt themselves* by putting strange things into their mouths—they should *ask* their mothers or their teacher first.

IV. The Baker's Shop.

What do children bring to school with them? their books, playthings, but also their "*piece*" (lunch)—what they bring it for? to eat—*when* do we eat? different things we eat, bread, flesh, &c.

I have a piece of (wheaten) bread in my hand—its *color? hard* or soft? Where it comes from? the *baker's shop*—What does the *baker do?* does he give it *for nothing? what does he give it for*—you often buy for yourselves and your parents.

What have *you seen* in a baker's shop? *different* things named, with their color, and form, and degree of hardness.

How should we do without the baker, who makes so many nice things?

Yesterday I saw some *crumbs* on floor, and a small piece of bread—notice how *easily broken* it is, and how *very careful* we should be with it not to waste it.

Conclude with the anecdote of the dog that went to the baker's shop every day, with the halfpenny, and brought back the roll; or with the verses on "The Crust of Bread."

V. The Cart.

Tell me all the things you met in coming to school this morning—things named till they come to *cart*—the *man* that drove it, and the *horse* or *donkey* that pulled it.

Its parts—*wheels* and *spokes*—then the *shafts* for the horse to go in—the cart itself, its *bottom*, and *sides*, and *back*. Draw or show model of cart or its parts.

What did you see *in* the cart? *coals*—get a *number of different* things named that they may have seen in carts—have *you ever* been carried in a cart? And when the cart is heavily laden it has *two horses*, and the other pulls by a *chain*.

What could we do without the cart? Little children sometimes get into their way in the street or road; which is wrong, for they may be hurt. So when we see a cart coming, we must quickly get out of its way.

VI. Rain.

What kind of day is this, children? day described, *sunny*, *clear*, *warm*, perhaps. Is it *always* so? What *other* kind of days have we? they are named till *rain* is mentioned. What was the *last* rainy day?

Where does the rain *come from?* what does it do? *wets* every thing, streets, houses, &c.

You can not *play* on rainy days—perhaps you wish there were none—but they *are needed* to make things grow, *trees* and *grass* and *flowers*, &c.—did you ever notice how fresh and green all things look *after a shower?*

If you go out on rainy day what happens to you? your clothes are wet and spoiled, perhaps—children sometimes go *out in* rain, which they should not do.

Who sends us both rain and sunshine? Verses on the Rain.

27. The following are outlines of more advanced lessons, such as might be given at the second stage; the first on a very familiar animal, in which the information is given on a larger scale than it would be to the youngest classes, the second on an object, with a special view to illustrate the qualities of it, and the third on a quality.

I. The Elephant.

The *general* size of the animal should be first noticed; its *hight* and *bulk* make it the largest of quadrupeds; compare it in hight *with a man*, and in bulk with the *largest animal* known among us, the horse.

What kind of *legs* it must have, *thick* and *strong*, like *pillars;* what it has got for *toes*. Infer whether it has *joints* in its legs or not; *necessary* to enable it to kneel for service of man. Its *head* big and heavy, with *hanging* ears; infer the character of its *neck*. With a short neck, could it drink *off the ground?* The substitute in the shape of a *trunk;* describe this; illustrate its power by an anecdote—*Mouth* and *teeth* and *tusks*—*skin* compared with that of the horse in color and covering. Show the picture of the animal.

How *it lives*—perhaps some one may infer from its structure that it is *not flesh-eating*—eats *leaves* and *twigs of trees* in his tamed state; *rice* also is given.

Countries it lives in, and is intended for.

How it *is used* after being tamed—being strong, it can *do much work*—*carries*

loads, *pulls* or *pushes* carriages, &c.—used for *riding* on—easy to *tame*, *gentle*, and *knows well* what is required of it.

NOTE.—The *inferential* or *comparative* aspect may be extended or diminished to suit the class addressed. The order here followed is, (1.) structure; (2.) habits; (3.) uses. This is not always the best order to follow. Thus, in a lesson on the "camel" the habits or mode of life had better precede the structure. The rule is to begin with whatever the children know best about the subject. In the lesson before us, all that they know about it may be its general size and appearance, with the presence of the trunk or tusks

II. The Sponge.

Notice the various uses of the sponge for *domestic purposes*

Then its qualities *by inspection*. Its *color*, light yellow; *soft* to the touch; *light* in weight; easily squeezed by the hand, *i. e.*, *compressible;* springs back again after being squeezed, *i. e.*, *elastic;* full of little canals, *i. e. porous;* sucks in water, *i. e.*, *absorbent;* when torn, seen to consist of a *fibrous* substance.

[The different qualities here indicated must be clearly wrought out by the teacher, and verified by the class, before the terms are given. According to the advancement of the class, *other articles* may be named exhibiting any of the same qualities.]

How it is useful *for washing*—because of its *sucking in* the water, and throwing it out again *under pressure*, the fibers resuming their place again from their *elasticity*, and ready to suck in as before.

Tell the interesting story of "where and how it grows," and "how it is got."

III. The term "Porous."

The term is supposed to have been illustrated before in connection with some familiar substance—sponge, for instance, as above.

Mention *any thing porous? Sponge. How do we know* it is porous? what like is it? Full of holes or apertures. Can we always *see* the holes? No; they may be *very small*. How do we know it is porous, then? Any *other thing* that is porous? *Bread;* illustrate how it so. *Wood* is porous; illustrate this by wood that has been lying in water. *Loaf sugar* is porous; illustrate this by the appearance it presents when dropped into tea. On the strength of these illustrations, an easy definition of "porous" may be given: porous means "full of pores, or little pipes." Then they may be told of the porousness *of the skin*. [The microscope would be of great use in such a lesson.]

28. There is considerable danger that the teacher may confound the character of the "early" and "middle" object-lesson in his practice, and therefore a number of examples have been given of these, particularly of the "early," for analysis. There is less danger of erring in this way with the "higher" object-lesson, so that one outline may suffice:—

THE COMMON HEN		THE COMMON DUCK
	lives	
on the ground about our houses,		about ponds, in which it swims,
	has a body,	
short and nearly round,		long and flat, for resting on water,

a neck,	
thick and upright,	longer and curving, to stretch under water,
a bill,	
short and sharp, to peck in ground,	broad and flat, to grope in the mud,
feet,	
with separate claws, fitted for walking and for scraping in the ground,	with a web, and placed far behind for swimming, so that it does not walk well,
feathers,	
short, and not fitted for water, either for a pond or for rain.	longer, and constructed so as to be light, and to throw off the water.

29. As soon as the children can read print or script hand, this ability should be turned to account in the object-lesson. The heads of topics, or the names of qualities, should be written down to make them acquainted with the forms of the words as well as to aid the impressing of the lesson; and the blackboard should present at the conclusion of each lesson the outline of what has been said. The previous paragraph exhibits what might be the appearance of the notes on the board at the end of the lesson there sketched. The necessity of *sketching* on the blackboard for illustration, as it is felt in other lessons as well as in the object-lesson, will be adverted to hereafter.

30. The moral aspect of the object-lesson is not to be overlooked. There is abundant room, incidentally, for profitable reflection. This may take different forms. Thus, in lessons on objects drawn from the region of nature, as from animal life from the phenomena of the world, the beauty in form or in adaptation which we constantly meet with can not but impress us with the wisdom, power, and goodness of the Creator, and with a sense of the homage which is therefore due to Him. From various animals we learn useful practical lessons regarding personal or social habits; as order and diligence from the ant, perseverence from the spider, &c.; also, we have suggested to us our duty towards them. And from certain kinds of lessons such duties may be easily inferred as that of using temperately and thankfully our gifts, of kindness to others less favored than ourselves, of economy, &c. Some of these are exemplified in the outlines given in § 26. No general rules can be laid down either for the mode or the extent of such reflections; beyond these, that where occasion presents itself we are bound to avail ourselves of it, and that the reflections should be short and naturally suggested by the lesson.*

* Mayo's "*Object-Lessons*" may profitably be consulted by the teacher for materials; also "*Information on Common Objects*," published by the Home and Colonial School Society

2. *Number.*

31. Number is a property of things which the child observes very early, so that he may be exercised upon it as soon as he enters the infant school. He may be subjected to a mental training of very considerable extent in connection with number; regarding which the following remarks may be made:—

(1.) As the child comes by his first notions of number through the medium of objects, so his whole training must be based on the observation of these. He does not use numbers for their own sake, but for the sake of the things to be numbered; he counts by sight, and is not able to abstract number from the things. He knows what five balls or five horses are, but he can not reason about the number five. If it be understood that it is with number as a property of bodies that the infant has to deal, and not with the science of number, it will be very clear that he must not be occupied with rules or technical operations. This preliminary course of training is termed "on number," to distinguish it from the formal study of arithmetic. The teacher will find no aid for it in the ordinary text-books on arithmetic; he must give it orally himself.

32.—(2.) The child's observation of number will carry him over a wider range of numerical operation than might be thought possible at first view. It will enable him to work practically in all the fundamental operations. The outline of the course may be conveniently indicated by the following heads:—(*a.*) Practical Numeration; (*b.*) The Adding of Numbers; (*c.*) The Substracting of Numbers; (*d.*) Multiplying of Numbers; (*e.*) Dividing of Numbers; (*f.*) Combined Operations; (*g.*) Parts or Fractions of Numbers; (*h.*) Tables of Applied Number or Standard Measures. The details to be given under each of these heads should be studied with a view, not only to the nature of the operations, but to their order.

All we ask is that the teacher shall bear in mind that it is with infants he is dealing; that, therefore, he shall not expect them to comprehend or perform any thing that is complex; and that he shall speak to them in familiar untechnical language.

Mann's "*Handbook of General Knowledge;*" "*The Observing Eye;*" "*Book of Birds, Fishes, Trees,*" &c., published by Society for Promoting Christian Knowledge; "*Exercises for the Improvement of the Senses.*" See also the list of books given in the note on § 87, some of which are available for giving materials for object-lessons. The chief practical works on infant-school training may be mentioned here once for all; they are Wilderspin's "*Infant System,*" Young's "*Infant-School Teacher's Manual,*" (Dublin;) Chambers's "*Infant Education;*" Stow's "*Training System,*" chap. xiv., and the Home and Colonial School Society's "*Infant-School Manual,*" "*Model Lessons,*" "*Religious Instruction,*" and other publications. These last have the advantage of exhibiting minutely the gradation of infant-school work.

33.—(3.) This training in number, well conducted, is very valuable in the way of preparing for future study. The great obstacle to a useful study of arithmetic in school is the abstract way in which it is often taught, owing to which the pupil never thinks of finding illustrations of what he is taught in the things that meet him in daily life. From the habit of close association between number and things which it gives him, this preliminary training will give him a great advantage in his lessons in the upper school, even if its spirit be not there carried out as it ought to be.

34. Practical Numeration.—(1.) *Significance of the numbers up to ten.* Each number must be taken separately, and a lesson be given on its power. Thus for the lesson on "one," write down on the board one line | one dot . one cross + one round O &c., and have them simultaneously repeated, *one* line, *one* dot, &c.; lay off on the lines of the ball-frame *one* ball; point to various things in the school, and have them similarly named, with stress on the number. Make the class mark down *one* line, *one* dot, &c., on their slates. In the lesson on "two," show how it is formed by putting another *one* to the *one* already had; proceed quite as in the former lesson; extend and vary the questioning thus:—a boy has two *eyes*, two *hands*, &c.; a cart has two *wheels*, &c., the class supplying the words in *italics;* and conversely, how many legs has a bird? how many scales has a balance? &c. Proceed similarly with the remaining numbers in separate lessons, always keeping in view to show how each number arises out of its predecessor by the addition of another of the same kind; and for this purpose introducing each lesson by a reference to the former.

(2.) *Reckoning with the numbers up to ten*—not only from one, but from other starting points—not only forwards but backwards—not only by odds but by evens—not only in regular order but following the number of balls the teacher may lay off—the children sometimes raising a number of fingers, or marking on the slate a number of dots or lines, corresponding to the number of balls laid off.

(3.) *The symbols up to ten, in the first instance, must be learned gradually.* To verify the child's knowledge of these he may be required to lay off balls, or mark down dots, corresponding to the symbol which the teacher writes on the board in silence, and conversely to write down the symbol for the number of balls laid off by the teacher.

(4.) *In passing beyond ten*, the eleventh ball should be laid off on the line below that which has the ten, the twenty-first on the third line, and so on; so that it may be seen how eleven is ten and one;

twelve, ten and two; twenty, two tens; fifty-five, five tens and five, &c. Each number will not require a distinct lesson.

35. The Adding of Numbers.—(1.) *Adding the numbers under ten to each of them in succession; the receiving number being, in the first instance, kept constant throughout the ten additions.* Thus the first lesson would be on "adding *to* one;" 1 and 1 are 2, 2 and 1 are 3, 3 and 1 are 4, &c., the children counting in each case and then repeating the formulæ just set down. Then take the lesson backwards, and after that in any order, only keeping the receiving number the same; then apply the lesson by means of practical questions, thus: John had 1 penny, and his mother gave him 2 pennies more; how much had he? There was 1 tree standing at the water-side, and 4 more near it; how many trees in all? Do not be content with a mere number as the answers to these questions, *e. g.*, 3 to the first, and 5 to the second. Insist on the full answer, 3d., 5 trees, or, "he would have 3d," "there were 5 trees;" and the class should often simultaneously add, "for 1 penny and 2 pennies are 3 pennies, 1 tree and 4 trees are 5 trees. Devote a similar lesson to 2 as a constant receiving number; 1 and 2 are 3, 2 and 2 are 4, 3 and 2 are 5, &c., and so on up to 10, taking care, when the sum goes beyond 10, not to put more than 10 balls or 10 marks on the slate in one line, but carrying the excess to the line below. Encourage the pupils to put questions to one another, particularly of the practical sort.

(2.) *Adding the numbers under ten, in their order, to each of them in succession; the added number being now kept constant throughout the ten additions.* Thus, the first lesson would be the "adding *of* one;" 1 and 1 are 2, 1 and 2 are 3, 1 and 3 are 4, &c. For second lesson, 2 and 1 are 3, 2 and 2 are 4, 2 and 3 are 5, &c.; and so on up to 10. The exercises should be conducted precisely as the former ones. It may be well to observe at this point that already a series of not less than twenty lessons in addition alone is provided, excluding revisals. The teacher who thinks that this minute subdivision is unnecessary and that the children can get over more ground in one lesson, and who accordingly does not keep to one number for one lesson, understands neither the infant mind, nor the object with which the course is given. He destroys the gradation in it, fuses its whole materials into one mass, and in this way deprives it of any training power. This remark applies to the whole of infant-school instruction.

(3.) *Exercises of a converse kind to the two foregoing:*—whereas in those the two constituent numbers were given and the sum required, let any number now be given and its two constituents be sought, thus: what two numbers make up 4? 6? 8? All the pairs

that make up any one should be obtained; thus, for 4, 1 and 3, 2 and 2, 3 and 1.

(4.) *Adding may be extended, so as to include three small numbers, and by degrees more.*

(5.) *The adding of tens, first with themselves alone*—10 and 10 are 2 tens or 20; 10 and 10 and 10 are 3 tens or 30, &c., which is just the adding of lines of balls instead of single balls; *and then with other numbers*—as 10 and 7 are 17, 20 and 5 are 25, 31 and 3 are 34. Each new number will not now need a separate lesson, for the process between 30 and 40 is just the same as between 20 and 30, and may be learned at one and the same time. Thus, let the teacher set off 20 on the two highest lines of the ball frame, and 30 on three lines lower down, say on the sixth and seventh lines; let him add to the 20 one ball on the third line, and to the 30 one ball on the eighth, then 2, then 3, &c.; it will easily be seen how 30 and 4 are 34, or how 32 and 4 are 36, just as 20 and 4 are 24, or 22 and 4 are 26, the 2 tens in the one case and the 3 in the other remaining quite unaffected by the process.

36. The Subtracting of Numbers.—If it be understood that all the operations in number are to be conducted in the same spirit as those of addition, it will be sufficient to give the outlines only of the following ones:—

(1.) *Exercises in subtracting the numbers under ten from each other in succession, the minuend being in the first instance constant.* Thus 9 from 10, 8 from 10, 7 from 10, &c.; 8 from 9, 7 from 9, &c. Subtracting should be based on addition; 9 from 10 is 1, *for* 9 and 1 are 10; 8 from 10 is 2, *for* 8 and 2 are 10, &c.; verified at each step by use of the balls, &c.

(2.) *Exercises in which the subtrahend is constant*—as 1 from 2 is 1, 1 from 3 is 2, &c., 2 from 3 is 1, 2 from 4 is 2, &c.

(3.) *Exercises in which minuend and remainder are given*—as, what must be taken from 8 to leave three? &c.; also in which subtrahend and remainder are given, as, from what must 6 be taken to leave 4? &c.

(4.) *Exercises in double subtraction*—as, take 2 from 8 and other 2, 3 from 10 and then 4, &c.

(5.) *Exercises combining addition and subtraction*—as, add 4 to 6 and then take away 2, &c.

(6.) *Exercises with the tens*—as, 10 from 17, 10 from 30, 90 from 100, 30 from 35, 5 from 35, 6 from 8, and, with it, 6 from 48, &c.

(7.) *Applied exercises to be constantly given throughout the whole series.*

(8.) *Addition and subtraction may now be conjoined with numeration;* as, count up to 100 by twos, by threes, by fours, by fives, &c.; count back from 100 by tens, by fives, by fours, by threes, and by twos; or count back from 90 by threes, (90 being a multiple of three,) from 80 by fours, (80 being a multiple of four,) &c.* But the symbols for these larger numbers must be taught very slowly.

37. The Multiplying of Numbers.—The "multiplying" of arithmetic is an artificial process derived from addition. Children have some difficulty in understanding its use, and always tend in their reckoning to fall back on the *natural* process of addition. To obviate the difficulty, the artificial process must be taught through the natural.

(1.) *Exercises in multiplying the numbers under ten by each other in succession, the multiplicand in the first instance remaining the same.* Thus:—

2 times 1 are 2	2 times 2 are 4
3 1 3	3 2 6
&c. &c.	&c. &c.

The proper way to put these exercises is this:—

1 and 1 are 2, then	2 times 1 are 2
1 and 1 and 1 3,	3 1 3
1 and 1 and 1 and 1 4,	4 1 4
&c.	&c.
2 and 2 are 4, then	2 times 2 are 4
2 and 2 and 2 6,	3 2 6
2 and 2 and 2 and 2 8,	4 2 8
&c.	&c.

(2.) *Exercises in which the multiplier is constant.* Thus:—

2 times 1 are 2	3 times 1 are 3
2 2 4	3 2 6
2 3 6	3 3 9
&c.	&c.

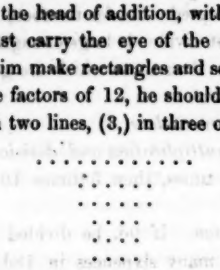
This step is more difficult than the former; any operation is not seen to rise out of the preceding one so evidently. In each of the two steps now given one number only should be taken as the subject of lesson, either as multiplicand or multiplier, and the table of results connected with it thoroughly learnt.

(3.) *Exercises in multiplying tens and in multiplying by tens.*

(4.) *Exercises in decomposing numbers into their factors.* First give one factor; as, what must 4 be multiplied by to give 12? then

* We have used the technical terms in the exposition for convenience sake, such as minuend, subtrahend, multiple, &c.; these, and any hereafter to be used, are addressed to the teacher, however, and should not be used before the class.

require both factors, as, what two numbers multiplied by each other give 6, 8, 9? This exercise corresponds to the decomposition of numbers under the head of addition, with which it may be compared. The teacher must carry the eye of the child along with him in this process. Let him make rectangles and squares with the balls. Thus, if he wishes the factors of 12, he should present 12 to the class, (1,) in a line, (2,) in two lines, (3,) in three or four lines, thus:—



It is an interesting exercise for him to make rectangles on the ball-frame, or to get the children to make them, then cause the class to count the balls in them by counting the two sides, and notice how the removal of a row or two rows affects the result; and conversely to make them construct rectangles of which he gives the number in the sides.

(5.) *Exercises in double multiplication by small numbers, and in the adding of two multiplications.*

(6.) *Exercises of application, e. g.*—5 boys get 2d. each, how much money was given to all? John passed 3 flocks of sheep in coming to school, having 6 in each, how many sheep did he see? 2 loaves at 2d., and 3 at 3d, cost how much in all? 3 of you hold up all the fingers in the right hand, how many fingers are up? 6 of you hold up all fingers except the thumbs, how many fingers are up? In each of these 6 seats there are 9 boys, how many are there in the gallery?

The field for putting these applied questions is widening, the teacher's ingenuity must task itself accordingly.

38. The Dividing of Numbers.—As multiplication is an artificial form of addition, so division is of subtraction; the same link of connection must therefore be kept up between division and subtraction.

(1.) *Exercises where the divisor is constant.* To give the class an idea of the nature of this operation, the teacher may count 10 or 12 balls in their presence, saying that he wishes to give 2 to each child and to know how many children he can give them to; or to arrange the children into rows of 2 each and know how many rows there will be. The result will be attained, in the first instance, by taking 2 and 2 successively till the number is exhausted, *i. e.*, by subtraction. The first lesson in division should be "dividing by 2;" for which purpose the balls on the frame may be arranged in successive lines below each other, 2, 4, 6, 8, 10, and 12. Then in first line (2.) there is

one 2, in second line (4.) 2 twos, &c.; and the table of results is learnt, 2 in 2 once, and 2 in 4 twice, &c. For 3 the same arrangement of the balls may be adopted; but for numbers above that they must be placed in mass to get dividends large enough. There are no better illustrations of division than those which are got by arranging the children themselves in rows.

(2.) *Easy exercises with remainders.*

(3.) *Exercises in which multiplication and division are used correlatively*—as 10 in 30, 3 times, then 3 times 10 or 10 times 3 are 30.

(4.) *Exercises of application.* If 9d. be divided among 3 girls, what will each get? How many sixpences in 18d.? weeks in 21 days? &c. In one seat, where all the children held up all their fingers, there were 100 fingers up: how many children in the seat? &c.

39. Combined Operations.—Cross-questioning is of great use to the teacher; it enters largely into his art of impressing. It connects one point of the pupil's knowledge with another, and makes them all available for mutual illustration. It may be profitably resorted to in lessons on number. For this purpose combined operations may be performed almost from the beginning of the course. Thus, when the children have got a little of addition and a little of subtraction, they may be practiced on both adding and subtracting, as parts of the same question; so with multiplication and division.

The following example shows how cross-questioning may be used in connection with any number:—

On the Number 8.—What is the last below it? Count up to it? Next above it? Count four above it? Two numbers that make it up by adding? other two? Three numbers that make it up by adding? What must be added to five to make it? Take one from it? two? three? How much greater is it than four? than two? how much less than ten? than twelve? What taken from eleven will give it? How many twos in it? fours? What number divided by two will give it? by three? What does forty give divided by it?

Then the questioning may pass on to concrete numbers:—

Eight boys having apples put them into two rows, how many in each? then into four, how many in each? Each boy got an additional apple, how many had they all now? One boy ate his, how many remained? two, how many remained? only one boy of the eight kept his, how many were eaten? Other three boys came in each with apples, how many apples were there now? with two each, how many now? Four boys gave theirs to their neighbors, how many had each of these four? and how many apples were there in

all? These eight apples were taken from a stall in which there were twenty, how many remained in the stall? And so on indefinitely. Such exercises may be made very amusing; and are valuable from the readiness they encourage.

40. PARTS OR FRACTIONS OF NUMBERS.—Elementary notions and operations in fractions are just as available in the infant school as those in whole numbers. The half of a thing is as easy of comprehension as the double of it, the third part as three times it; that two halves make a whole or three halves one-and-a-half as that two twos make four, or three threes nine; provided the illustration given in the two cases be equally simple.

(1.) *Exercises to illustrate what a fraction is.* An apple is to be divided between Willie and his sister, what must be done with it? it must be *cut*. Will it do to cut into a big piece and a small piece? No, they must get pieces of the same size. Look at me, now, while I cut it (teacher holding up the two pieces.) Are they about the same size? Yes. Then each of them is called *a half*. How many halves in the whole? Two. Could I divide an orange into two parts of same size? Yes. What would each part be? A half. Here is a bit of string, of paper, of wood, &c., which I shall divide into two bits of same size; what do you call each? A half. Then if I put two halves together, what do they make up? The whole. Take another apple, and illustrate a third in the same way. The subdivision of the halves will show how fourths or quarters arise, of the thirds how sixths and ninths arise, and of the fourths how eighths. The fifths and sevenths must be explained by cuttings for themselves. Beyond these fractions it is not necessary to go. For further illustration it would be desirable to have a rod, say a yard long, divided into halves, fourths, and eighths, and another into halves, thirds, and sixths. The solid cube divided into eight parts, and another into six parts, would also be very useful. But the balls on the frame, and counters of any sort, may also be turned to account; for six balls may be divided into two groups or three groups, to illustrate halves, and thirds, and so on.

(2.) *Nature of the exercises in fractions. In equivalence;* how many halves in one? in two? &c., how many thirds in one? in two? &c., how many fourths in one? in two? &c.—how many fourths in a half? in a half and a fourth?—how many sixths in a half? in a half and a sixth?—how many sixths in a third? &c. *In addition;* a half and a half make? a half and a half and a half make? a half and a fourth make? one third and one third make? one third and two thirds make? one fourth and one fourth make? one fourth and two

fourths make? one fourth and one half make? &c. *In subtraction;* one half from one gives? from one-and-a-half gives?—one fourth from three fourth gives? from one half gives? from one gives? from one and a fourth gives? &c. *In multiplication;* what is the double of a fourth? four times a fourth? three times a third? three times a sixth? &c. *In division;* how many halves in one? in two? in one and a half?—how many fourths in one? in one and a half? in a half? &c. *In comparison;* whether is a half or a third the greater? a third or a fourth? a half or three-fourths? a fifth or a sixth? &c. *Applied questions* may be given under all these heads, especially with the pence table. What is a farthing? how many in twopence? difference between a penny and a farthing? a halfpenny and a farthing? What must you add to a halfpenny to make twopence? &c. It may be repeated here that for verification of the results the children should manipulate with the illustrative apparatus as well as the teacher.

41. The ball-frame is the principal means of illustration used in infant schools; it is proper, therefore, to give the following cautions as to the manner of using it:—(1.) It is not to be used beyond the pupil's ability to follow it with the eye. Rapid operation with 40, 60, or 80 balls does nothing to aid the observation; it can neither lead to, nor verify, any result. When the frame is used at all, it must give *bona fide* illustration. (2.) It must be used as a means, not as an end. The child is not learning the ball-frame, but operations in number through its help. Particular manipulations, therefore, need not always be repeated after they have served their purpose. It has already been indicated that the different operations, after being performed with the aid of the frame, are to be performed without it.

42. These lessons in number may be assumed to be given by way of collective-lesson. Interest, and rapid distribution of questioning, are the elements of success in such teaching. To be interesting, the questions must deal with familiar things, must be varied, and must be simply expressed; in a word, must come into contact with the child's daily experience. To be rapidly distributed, the teacher must have at command all the possible forms in which questions may be put; with which view he should, at the beginning of his career, write down all these forms, and learn them as so many formulæ. He has then only to vary the *things* mentioned in the questions, which a little practice will enable him freely to do. It is not to be expected that a lesson of this nature can succeed unless the children feel that the teacher speaks from a full mind, and is quite at ease.

43. STANDARD MEASURES.—Lessons on number must make the

child familiar with the various units of measurement used in the affairs of life. These are excellent illustrations of the different operations; and, besides, he needs to know them. He must become familiar—(1.) With the units themselves; (2.) With the relation of different units of the same kind; and (3.) With the application of them to practical purposes. For the first of these ends, the units must be constantly before him; for the second, he must see them compared, and with his own hands compare them; for the third, he must see them applied, and with his own hands apply them, to the measurement of things about him. In this way, what appears so formidable a task when presented in the shape of Reduction-tables to be learnt, will become an easy, natural, and most interesting exercise of his senses and his activity. It is needless to carry him through all the tables; those in most common use will suffice: and the first place is due to—

44. *Number as applied to Value, or the Money-table.*—The child necessarily becomes familiar with this to a certain extent without any special training, and the preceding exercises have assumed such an acquaintance; but it is well that distinct practice in the use of money be given. He must complete his acquaintance with all the coins therefore, with farthing, halfpenny, penny, threepenny-piece, fourpenny-piece, sixpenny-piece, shilling, florin, half-crown, crown, half-sovereign, sovereign, and one-pound note. Their forms should be examined, their sizes, colors, weights, sounds, and the stamps upon them; their points of resemblance and of difference noted, so that he may be able to tell them at once on seeing them, to describe them, or recognize them on description. He must be exercised in adding, subtracting, &c., different sums, in every variety of language. And he should go through little processes of buying and selling in imagination, in which he shall be accustomed to give back and get back the proper amount of change. Actual counting and handling of the money is indispensable.

45. *Number as applied to size* (linear.)—In going through a parellel process with this table, the teacher should have beside him an inch measure and a three-foot rule, to show the foot and the yard. For verifying operations, he should have twelve inches, some three-inch measures, six-inch measures, and three foot-measures; slips of wood cut to the size will do. The child should be able to tell them all at sight. The field of questions on their relative size is very wide, thus: (holding up foot-measure) how many of the smallest measures (inches) in it? what part is the inch, then, of foot? How many of the next smallest (3-inch measure) in it? of the next? How may it be made up by three slips (half-foot, and two of the three-inches?) of four slips?

of five (6-inch, 3-inch, and 3 inches?) of seven? In each case the process of comparing should be gone through. When the children are familiar with the measures, things should actually be measured. What is the breadth of this book? its length? its thickness? the hight of this picture above the floor? the length of the picture? of the pointer? of some of the children selected? the depth of this cup? this jug? the length, breadth, and thickness of this cube? the dimensions of the school-room floor by admeasurement? &c. Draw a line on your slates an inch long, up-and-down? the same even along? the same slanting? two of them? six in order? the same half-an-inch long? alternating an inch and a half-inch? two inches long? alternating two inches and one inch? three inches? &c.

46. *Number as applied to weight.*—If the spirit of the previous exercises be understood, it can not be necessary to exhibit the details of those upon weight. Suffice it to say, that the children must acquire their notions of weight by weighing. For this purpose, the teacher should have beside him a pair of scales, with the different current weights, 1 lb., 2 lb., ½ lb., ¼ lb., 1 oz., 2 oz., ½ oz., ¼ oz.; and duplicates enough to show equality, 16 oz. for the lb., two ½ lb., four ¼ lb., two 1 oz., two ½ oz., four ¼ oz. For weighing, he should have sand, small shot, or some equally convenient thing; and he should also often weigh common articles. Let the questioning be varied as before.

47. *Number as applied to square measure.*—The most convenient apparatus is a diagram of the square inch, square foot, and square yard on the school wall, white lines on a black ground; the yard divided into its nine feet, and the foot into its 144 inches. Handkerchiefs or towels may easily exemplify the yard and the foot. Any rectangular object in the school, such as the slate, the board, the map, the picture, &c., are convenient for this measurement.

48. *Number as applied to capacity.*—In liquid measure, the gill, the pint, the quart, the gallon, are the measures to be shown. In dry measure, the peck, the ½ peck, and the ¼ peck will suffice.

Lastly, *Number as applied to time* gives an important series of lessons, though there can not be ocular illustration with them. Experience, however, makes them quite intelligible; the second, the minute, the hour, the day, the week, the month, the year, should all come under review.

49. The steps in this series of lessons on applied number must be taken gradually, just as the child can bear; each one being thoroughly mastered before another is taken up. They afford scope for all the fundamental operations, and particularly for fractions. The

Reduction-tables should be learned after the practical exercises in each kind of measurement; but the children, so far from finding this difficult, will be able to construct the tables along with the teacher on the board.*

3. *On Color and Form.*

50. Color and Form should have a distinct and no unimportant place assigned to them amongst the instruments of infant-school training. They are two properties of bodies the most general, and, for the child, the most distinctive; they both appeal to the sight, and are therefore very early recognizable; they occur in endless varieties, and therefore afford ample scope for the training of the observation. Lessons on Color and Form are necessary to enable the child to form correct impressions of the things about him. But they have another aspect, the latter of them particularly. Color and Form are the elements of *representation*, pictorial and linear. An acquaintance with them is needed, therefore, before we can interpret such representations; a power of much consequence, considering the wide circle of things of which we can learn only through representation. Besides, the child is at a later period to be instructed in certain departments of the art of representation, to wit, drawing and writing; for both of these the lesson on Form is a valuable preparation.

51. Color and Form have been mentioned together because they are the proper complements of each other. Their instrumentary character in training differs, however, in these two particulars: (1.) Color, as a property of bodies, is recognized before Form. From experience we see that it fixes the attention of children earlier than Form. The reason is that the recognizing of it is an exercise of simple sensation only; whereas the recognition of Form is an exercise of complex or double sensation. Color is recognized by simple sight; Form by sight combined with motion, the motion of the muscles of the eyeball. Practically, then, we speak to infants of Color, before we speak to them of Form. (2.) Though earlier available, Color is less useful as an instrument of training than Form. The tints and shades of Color are, no doubt, exceedingly numerous, and the effects producible by their combinations, are of inexhaustible variety; but the child can not and need not notice all these. It is enough if he can discriminate the leading species (hues) of Color with a very few of their most commonly occurring modifications as to tint or shade.

* There are a few little works which may be profitably consulted by the teacher on this subject; of these may be mentioned, "*Arithmetic for Young Children*," published originally by the Society for the Diffusion of Useful Knowledge; "*First Ideas of Number for Children*," published by Parker, London; and Tate's "*Arithmetic*."

But the variety of Forms which he needs to discriminate are indeed endless; of the common things about him no two have precisely the same form. And from the nature of the sense to which it appeals, variety of Form is easily distinguishable to a much greater extent than variety of tint and shade in Color.

Color.

52. The design of the lessons on color may be stated as twofold. It is (1.) to enable the child to discriminate the commonly occurring colors; and (2.) to cultivate his taste, so far as to habituate his eye to those combinations of color that are known as harmonious. Any experimenting on the physical relations of colors beyond this, such as explaining the effects of their admixture, or the numerical ratios involved in their harmony, is quite beside the mark. We have not to deal with color as a science or as an art, though it is both, but simply as a property of bodies. The elements of instruction are few, but there is constant room for their application.

53. As a natural order for the lessons on color, the following might be adopted:—

First series: On *white* and *black*, with their mixture in *grey*. White and black are not, properly speaking, colors; white is the neutralization of color, black is the absence of color. They are the extremes, however, within which the colors lie, and by which they are measured; so that a knowledge of them is necessary. And they first present themselves to notice; *light* is represented by white, *darkness* by black, and by reference to light of the sun and the darkness of night the notion of white and black is given.

Second series: Red, blue, and *yellow.* These are the three primary colors, so called, which produce all other colors by composition in various proportions, but can not themselves be produced by any composition.

Third series: Purple, orange, green. These are the secondary colors, so called, produced from the admixture of the primary thus—red and blue giving purple, red and yellow giving orange, and blue and yellow giving green.

Fourth series: Russet, olive, and *citrine.* These are the tertiary colors, so called, produced by admixture of the secondary, thus—purple and orange give russet, purple and green give olive, orange and green give citrine.

Fifth series.—Those now named are all the hues of color; but each of these hues has different tints and shades, according as it is mixed with white or black, more or less. Thus red may be varied

into crimson, scarlet, pink, &c.; yellow may be varied into lemon, straw, primrose, &c.; and blue may be varied into stone, sky, slate, &c.

54. For giving these lessons on color, the teacher may have them exhibited on a board either together or singly; but the best possible color-board is one made by himself and the children with the help of a box of paints and white card. If he can not get a board for the purpose, he may procure other apparatus in its stead. He may get small squares sewed with the different colors of worsted, in the manner of a sampler; or he may find the colors exemplified in the skeins themselves, in bits of merino, silk, or ribbon, in paper, wafers, glass, &c. After the children have *observed* any color, red, for instance, they should single it out of many others; then be required to name things which show it, as blood, a rose, and other flowers; the robin, and other birds; sealing-wax, a soldier's coat, binding of a book, shawl, hair, &c.; also to think at home of as many things as they can, and mention them in the next lesson. A color need not at this time be distinguished into its different shades.

55. In seeking to give to the child some perception of harmony in color, whilst he may be told that certain colors agree beside each other, and certain others do not, it is to be remembered that it is the eye that is to be trained in the first instance, and then the mind. A sense of concord in music, whether in melody or harmony, grows up in one after hearing it exemplified frequently; without this no explanation can have any meaning. So in color; the eye must have the opportunity of dwelling frequently on harmonious combinations. When it is accustomed to these, it will instantaneously be offended by a combination which is not harmonious. The presence of all the three primary colors, either pure or in combination, being required to produce harmony, it will be understood that red and green harmonize, as also yellow and purple, blue and orange, green and russet, orange and olive, &c. This principle should guide teacher and children in the combinations they make of their slips of color in designing patterns. An eye familiar with such juxta-positions will not tolerate such as yellow and orange, blue and purple, red and orange, blue and green, orange and russet, and the like.*

Form.

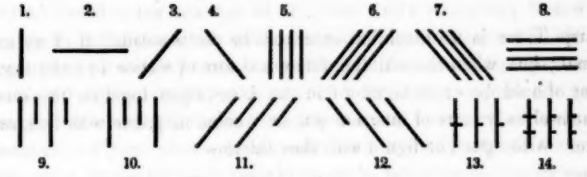
56. The lesson on Form deals with forms of all the kinds of dimension; with those of one dimension or lines, those of two or plane

* For information on the subject of color, see Redgrave's little "*Manual of Color*," and corresponding chart; also, "*Hay on Harmonious Coloring*."

figures, and those of three or solids. In each case the forms must be traced, as exemplified in the common things of life.

57. To commence with lines; the annexed diagram represents what may be the first series of lessons, or some of them:—

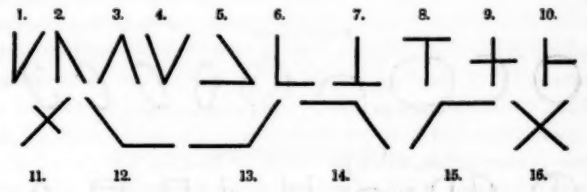
I.



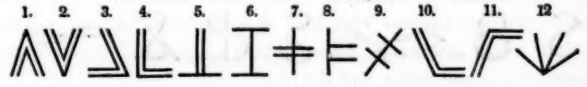
The simple straight line gives materials for a large series of lessons, as there are various ideas to be developed in connection with it, viz., straight, up-and-down, (perpendicular,) even-along, (horizontal,) sloping, equality of length, equality of thickness, equality of width between, bisection, and trisection.

58. Combinations of the straight line suggest another series of which these are examples:—

II.

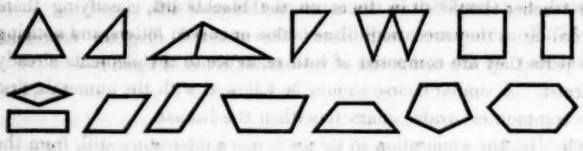


Extended by duplication thus:—



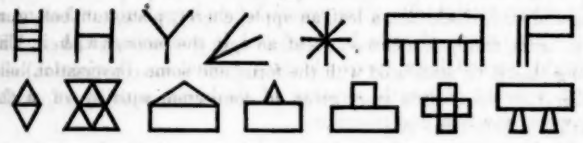
59. Plane figures may be grouped according to the number of sides that constitute them; triangles of various shapes, foursided figures comprehending the square, the rectangle, the rhomb, the rhomboid, the trapezium, the polygon, including the pentagon, hexagon, and decagon.

III.



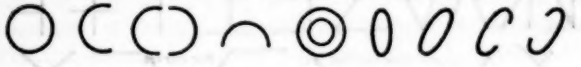
60. There is no invention exercised in the construction of these forms; but, when the children have had some practice in imitating, they should be encouraged to invent, *i. e.*, to put together the elements already learned into new patterns, combining line with line, or figure with figure, or figure with line, thus:—

IV.



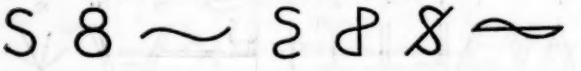
61. The curved lines are more difficult to deal with; but some practice must be given in making them also, since they occur in the letters, and in many familiar things. Thus:—

Simple Curves.



Curves with straight lines.

Curves of contrary flexure alone and with straight lines.



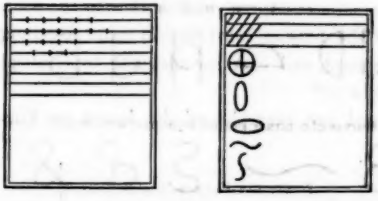
62. The mere imitation of these various forms on their slates interests the children; but the interest is greatly increased when the different forms are applied to practical purposes. This application is twofold: (1.) to commonly-occurring *forms*; (2.) to commonly-occurring *things*. Under the first fall the letters of the alphabet—both small and capital, both in print and in script. The alphabet-board is

useful here and also the letters separately on slips of mill-board; but the teacher should draw them on the blackboard, classifying them according as they are straight-line letters or curved letters, and noticing the parts they are composed of with reference to the elements already learned. A similar course should be followed with the numerals, first the common or Arabic characters, then the Roman.

63. But the application to things is more interesting still, from the appeal it makes to their curiosity and their imagination. All forms from the very simplest may be found represented in things: straight lines and figures, as in a pointer, pen, pencil, comb, book, picture, window-frame, arrow, sword, stool, table, house, castle, box, star, cross, door, &c.; curves, as in penny, sixpence, target, cup, saucer, bottle, jug, whip, walking-stick, candle-stick, extinguisher, spire, cart-wheel, spinning-wheel, knife and fork, spoon, basket, ship, pillar, chimney, flag-and-staff, clock-face, a leaf, an apple, cherry, plate, tub, bell, gun, key, drum, trumpet, a cheese, a loaf, an egg, the moon, &c., &c. The thing should be associated with the form, and some conversation held upon it, or some little story given in connection with it, whilst the outline is before the eye.

64. The apparatus for the lesson on form, so far as it has been described, is very simple; all that is indispensable is the blackboard for the teacher, and slate and pencil for the class. It will be found convenient to have the slates ruled, not over their whole surface, but partially; so as to give the children a little help without restraining their freedom of imitation. Perhaps the most convenient form of ruling is this:—

For straight lines and figures. For curves.



On the one side the upper half is ruled, and a few points put on some of the lines; and, on the reverse, a few lines ruled for writing, and the simplest curves are represented.

It will contribute very much to the regularity and uniformity of the lesson, that the slates should be the property of the school, each class having its own set attached to it in its own box. Though not

indispensable, it is serviceable to have diagrams of form: a board, *i. e.*, on which the geometrical forms are represented, both planes and solids, with their proper shade. Very serviceable, also, is a number of slips of wood, or laths, by means of which the children can construct any of the forms, either straight lines or rectilinear figures, which the teacher draws on the board. Thus, all the examples in §§ 57–60 may be exhibited, the requisite number of children holding the laths, in vertical lines, in slanting lines, in even-along lines, in triangles, rectangles, &c., as the case may be.

65. There are two senses in which solids may be made materials for lessons on form. According to the one, the geometrical solids are exhibited and their outlines made familiar; this is of much service, and the teacher should have a box of solids for this purpose, and a series of representations of them, shaded if possible. According to the other, by the use of solids themselves, such as cubes, parallelopipeds, cylinders, cones, pyramids, &c., the invention is taxed to construct different forms. These, in fact, are so many bricks, stones, pillars, towers, arches, &c., with which the child becomes a builder. Such engagement seems well suited for an individual child or for a family, as it must foster the taste, the imagination, and the habit of perseverence; and it may be provided in the play-ground of the infant school.

66. The lesson on Form may be given either to the whole school collectively, or to separate groups, the latter being the better way. One caution, however, should be given: it must be viewed as a lesson, and not as a mere device for occupying the children while the teacher is otherwise engaged. Doubtless, it may be made very interesting and amusing; nevertheless it is instruction proceeding upon a principle, in systematic order, and with a view to the attainment of certain results. The teacher must bestow some forethought, therefore, on its arrangement, and exercise adequate superintendence over the class engaged in it.*

67. Subjoined are examples of the lesson on Form in different stages:—

I. On the Perpendicular Line.

1. Teacher holds in his hand (suppose) a bit of string, stretched by some object attached to its other end; children notice its appearance; teacher then holds in

* Hints on the nature and order of the lesson or form may be found in works like the following:—Richson's "*Copies*," (National Society;) "*Drawing for Young Children*," (Society for Diffusion of Useful Knowledge;) Krüsi's "*Manual*," or the summary of it in the Home and Colonial Society's "*Infant-School Manual*." But any of the better kind of elementary manuals of drawing, such as Tate's or Carpenter's, will suggest many things to the teacher.

his hand a bit of string which is curled and twisted, from having been rolled round something; children notice the difference: the one even or straight, the other not.

The teacher similarly contrasts the pointer with a walking-stick or cane; also, a straight lath with a slightly-bent one.

2. Again, the teacher holds in his hand the straightened cord, (1.) perpendicularly, (2.) slantingly, and the children notice the difference; the pointer, stick, lath, &c., held (1.) perpendicularly, (2.) slantingly. This will give the further notion of *even-up-and-down;* which word may be used for a while instead of perpendicular.

3. Teacher asks them to watch him as he draws an even-up-and-down line on the board; they follow with the eye; he asks how it was done; examines whether it is *straight*—whether it is *even-up-and-down;* places the pointer or lath along it, and they see it is. Would this do? Why not? This? Why not? This? Why? Who can draw one on his own slate? All draw one; teacher looks and criticises a little.

4. Teacher asks for any common things in shape of an even-up-and-down line? A pointer held up; that is designed for ——? a ruler, that is ——? a flagstaff, that is for ——? a mast of a ship, that is for ——? some trees, which grow in the ——?

5. They then draw on their slates a number of these even-up-and-down lines.

NOTE.—One idea is enough in one lesson. Here it is the idea of even-up-and-down. The children need not at present attend to the *distances* of the lines from each other, when they make a number. Another lesson similarly illustrated would be given to the slanting line to the right, another to the slanting line to the left, another to the even-long (or horizontal) line. So a distinct lesson would be given to equality in length, equality in thickness, equality in slope, and equality in width, thus:—

II. Equal Width or Distances.

1. Teacher draws Count how many lines are there? what kind of lines? would this be the same? Why not?—what is between every two lines? a space—how many spaces are there? If I draw another line, how many lines? spaces?

2. Teacher tells them to notice that spaces are of same width—measures them before the class. If I want all spaces to be the same, then, would this do? why not? How do you know? You don't need to measure that, you see it. Now, make three even-up-and-down lines yourselves on your slates. They draw three, and the teacher criticises a little.

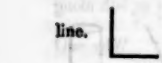
3. Think of any things we could get to show even-up-and-down lines with same width between them. We could do it with fingers—three children hold one finger each together—with arms in same way—with pointers or laths—some are

called on to put these in position. Another thing yet in the school which shows them? The ball-frame. Count the wires and the spaces.

Any thing not in school which shows even-up-and-down lines at equal distances? A railing, which is made ——? and is used for ——? a bird's cage, which is made of ——? and is used for ——? grating in some windows, which is made for ——?

4. Now make some rows of even-up-and-down lines on your slates.

III. On the Oblong or Rectangle.

1. Teacher draws it by degrees; thus, what is this? an even-up-and-down line.  what is added here?—and here? and here? Another way of making it—What are these? Two even-up-and-down lines of same length. Join them. How many lines in all? how many *kinds?* how many of each kind? Are they separate? how many corners? What is within the lines? a space? Are the lines of same length? any two of them—teacher measures them—pupils draw one for themselves, and teacher criticises a little.

2. Name any thing you know which is drawn by four lines in this way—a slate, which is for ——? a blackboard, which is for ——? a map, which is for ——? the ball-frame, which is for ——? a book, which is for ——? Count all the sides in these. Also a window, which is for ——? the door, which is for ——? a sheet of paper, which is for ——? &c.

3. The pupils proceed to draw figures for themselves, the teacher giving them directions how to use the lines ruled on their slates, and the points indicated on them.

IV. On the Circle.

1. Teacher holds up a penny, sixpence, &c.—gets the shapes named successively—holds up a circle cut in paper—another shape more or less nearly circular—children observe difference.

2. Teacher draws on board a figure nearly circular—then a circle, the children following the chalk—teacher takes a line and measures across the center-point, and shows the children how this is always the same—draws a few such lines (or diameters) through the circle—then through the other nearly circular figure, and children observe the difference. They draw one on their slates.

3. Things named which are round—various coins—cart-wheel, used for ——? and which well illustrates the circle; a cheese, for ——? a chimney, for ——? a hoop, for ——? the sun, which ——? &c.

4. Children then proceed to construct several on their slates.

NOTE.—Lessons on the forms of solids are the most advanced of which they are capable, and differ from the preceding lessons in this particular, that they are not fully or not at all within the child's power of drawing. But he should be

taught to recognize the forms of all the solids when he sees them drawn; which he can not do till his eye is educated. With this view lessons should be given on each of the solids; as the cube, prism, pyramid, cone, &c. Subjoined is the example of a lesson.

V. On the Cylinder.

1. *To give a general notion of its form*, teacher holds it in his hand before the class—turns it on its axis vertically—the same horizontally—rolls it. It is *round*—holds its end toward the class—they recognize the circle—two ends and surface—teacher sets it on end—children name any thing corresponding in form, as a pillar—lays it down—children name something corresponding to it in outline, as a roller. Length varies; to show which it should be cut parallel to its end in one or two places.

2. *To explain its form in the drawing before the class, it being drawn on end.* Teacher places it on end—children trace its outline—its round front, how much of it seen?—the two vertical lines that bound its front—part of its base line—its top, not quite circular in appearance—all these lines actually traced—teacher draws it, or points to drawing—children trace the corresponding lines.

3. Children name a number of things cylindrical in shape, to see that it is a common form—pillar, roller or baton, tin box, a tree so far, a map or sheet of paper rolled up, a pitcher, a hat so far, &c.

4. Children intimate cylinder on their slates.

NOTE.—If the drawing before the class be shaded, this must be explained by reference to their experience. They observe things casting shadows, men, pillars, trees, &c.; thus they will understand on what side the shade should be. The drawing of a cylinder in other positions should be deferred to other lessons.

4. On Singing.

68. Singing is absolutely indispensable in the infant school. The child is naturally sensitive to sweet sounds. The mother sings to her child to soothe its sorrows and enliven its joys. The child sings to itself; almost unconsciously indeed. If it be not in possession of any melody, it will yet put sounds together; if it have learnt a melody, it will often be heard rehearsing it. Singing is a vehicle by which it expresses its feelings; producing an effect on the child which is keenly pleasurable at the moment, and which leaves him in a calm, pleased state. Every one who has seen the cordiality and unanimity with which children break out into a simple melody after some stretch of attention will understand the prominence we assign to singing. It is in infancy that the taste for singing must be founded; the period invites us to do so; if we neglect to cultivate it then, the inspiring of it will be a work of more difficulty at any future time.

69. In the infant school singing should be taught by ear and not from note. Skill in music certainly implies the power of reading from note, and an acquaintance with grammatical structure. But the study necessary to acquire this skill must be deferred till a later date. It

will equally perplex and repel the child at this stage. If we give him a taste for music by accustoming him early to its beautiful effects, he will be allured to the study in due time. At present, therefore, he learns his melodies by listening to and following his teacher's voice.

70. With regard to style of music, there are several kinds of errors made. A very common one is the exclusive, or almost exclusive, use of sacred music, perhaps even of psalmody. One of the ends—we may say the highest end—of learning to sing, is certainly to sing for devotional purposes; and the child, too, must use his gift of song in solemn worship. But whilst he must know some sacred songs, it does not suit the character of his own mind or of the music itself that he should be always engaged with this style. He must have the means of expressing the ordinary joyousness of his years; which is found in secular melody alone. Since the child sings from lightness of heart, he should be taught lively songs. The graver rhythms are unsuitable for him; and the use of the minor mode is a gross incongruity in the infant school.

71. To describe suitable melodies more minutely:—They should preserve a medium in respect of pitch, ranging between the notes D (below the first line) and E (fourth space) on the treble staff, since the voices of the children are tender, and liable to suffer from straining; the intervals between the notes should be of the simplest kind, viz., diatonic and common-chord, modulation from one key into another being, as a rule, avoided; the rhythm should be simple and well marked, such as $\frac{2}{4}$, $\frac{3}{4}$, and $\frac{4}{4}$, and then $\frac{4}{4}$ and $\frac{3}{4}$.

72. Singing in two parts or more should not be pressed on too hastily. The more advanced children may be taught to sing a second part, but it is not necessary; simple melody is attractive enough to attain all the ends of the exercise. The teacher may sing a second part at pleasure as accompaniment.

73. The difficulty in finding suitable songs lies as much in the words to be sung as in the tune itself. Verses of a purely didactic character, or which are filled with abstract sayings, are not suitable. Still worse are rhymes of a professedly utilitarian kind, arithmetical or geographical tables, and the like. Speaking generally, whatever carries the child's thoughts to the objects that he naturally finds pleasure in is suitable, so far as matter is concerned. Pieces on beautiful natural appearances, on natural objects, on animals, or stories in the ballad style, may safely be used, provided their language be simple and their sentiment correct.

74. The singing, if it is to cultivate the taste, must be done tastefully. The children may not sing artistically, but they may be ex-

pected to sing in tune without shouting, and with becoming light and shade in expression. If there be a child who seems unable to keep in tune with the rest, *i. e.*, whose ear requires more exercise in tune than the average, he should keep silence during the singing till he has attained sufficient cultivation to join in it, and not be allowed to mar the singing of the others.

For singing, in its bearing on discipline, see § 16.

5. *On Geography.*

75. Geography is one of the natural sciences, having for its subject-matter not ideas, or symbols, or formulæ, but *things*. On this account it was introduced not very long since into the course of school-studies. It was designed as a counterpoise to the too exclusively verbal and abstract character of that course. It has not, for the most part, been taught in such a way as to serve the ends of its introduction, having been greatly confined to what is really an abstract study, the study of the position of places on the map. It should be well understood that geography, viewed educationally, is a *study of things*. If this its true character be preserved, it will readily be seen that there is an aspect of it in which it is fit to be handled in the infant school. It were to be wished that there were a more familiar name to give to the study in this stage. The name "Geography" is too scientific. The lessons contemplated in it really fall under the object-lesson. They are a series of object-lessons on the earth, with its more striking external aspects, its products and occupiers; and we treat of them separately from the object-lesson in general, only because they are the germ of what in the subsequent stages of the child's progress is recognized as a distinct and important branch of study.

76. Map-geography, in the ordinary sense of the word, is no part of the work of the infant school. It is very common to begin geography by setting before the class—after telling them what the shape of the earth is, and what a map is meant to be—a map of Europe; and to give them the names of the countries, mountains, rivers, bays, islands, straits, towns, &c. But this is altogether an anticipation of the work of the upper school. In the infant school it gives a certain knowledge of the piece of paper before them called a map; but as the children can comprehend neither what a map is, nor what it is for, it gives them no *real* instruction whatever. It is to no purpose that it be made simple or even amusing by the teacher's ingenuity, and that the children become actually expert in naming the places pointed out. The work itself is not that which should be engaging their attention. They can not at this stage realize the "geography of locality or relative position."

77. The geography of the infant school should be pictorial and descriptive. Commencing with the elements of natural scenery that fall under the child's observation, and carefully noting their distance and relative direction from the school and from each other—the hill, the mountain, the brook, the river, the plain, the forest, the moor, the rich mold, the island, the sea, the cliff, the cape, the castle, the village, the city, that may be seen in prospect from the school; the productions of his own land—its animals, its trees, and flowers, and herbs, its metals; the men of his own land—their occupations, their customs, their habits, their food, their clothing; it should seek to make the child realize the corresponding features of other lands and climes by comparison with what it has observed in its own. We should ever set before his eye, when possible, specimens and pictures of foreign products and scenes, and for the rest appeal to his imagination to take off the impressions from our vivid descriptions. Such is an outline in brief of the course the instruction should follow.

78. *Examples of subjects of lessons in Home-Geography.*—Let the subject be "*rivers.*" What a variety of instructive matter is suggested by it! their source in the little springs welling forth amongst the hills from the bosom of the earth—the descent of the many small rills from the mountain side to the valley—the length, depth, and gradual increase of the main stream—the influence of the season of the year upon them—the smooth, clear, low water in summer, and the dark, swollen, angry torrent in winter—the character of the land through which they flow for fertility—the uses to which man puts rivulets and rivers—the one a source of power for industrial purposes, the other the highways of commerce and of traveling, both adding to the riches and civilization of a people. All these considerations are involved in the idea of "river;" and there are few of them that could not be illustrated by reference to the brook that may pass the school or the river that may flow through the city.

Let the subject be "*mountains.*" There may be some hill near the school which the children may have beguiled a summer's day in climbing. They are to observe its shape—whether it be broad and flat, or steep, and in part precipitous—whether it be a single hill, or one of a range—the matter of which its surface is composed, whether earth or rock in any of its forms—the covering of its surface, whether grass, or heather, or shrubs—the animals that may be browsing on its slopes—the streams which may leap down its sides—the climate varying with the hight till they reach the cool of the summit—the cornfields at its base, extending more or less up the slope—then the woods, and, lastly, the grass—the toilsomeness of the ascent, and

the time required for it—and, perhaps, the metals or minerals dug out from it.

Let the subject be one of the phenomena of "climate."—On a "*winter's day*" let them observe the thick flakes of the falling snow, whitening the face of nature, or the hardening influence of the clear frost covering our lakes, ponds, and roads with ice—the rapid motion and the thick covering necessary for comfort—the fires we need in our houses—the care we need to take of our animals—the unproductiveness and barrenness of nature at the time—the short day, and the long night. On a "*summer's day*," again, the mild air—the clear, blue sky—the moderate motion and the lighter clothing—the face of nature beaming with animal life, and clothed with the rich vegetable green—the treasures in the fields—the long day and the short night.

In these lessons on geography, scientific order is of little consequence. The true point of commencement is with what the children see and know. Thus, if we give a lesson on "rivers," we just take them in imagination to the river side, and exercise their senses on what is before them. The river is (suppose) broad, deep in the middle, shelving, clear or brown, smooth or broken in surface; its banks are pebbly, or rocky, or grassy, and so on. For the next lesson, we take them to a spot further up where different phenomena are seen, and then further up still to its source; next take them down the river till they come to the point at which it falls into the sea, or into some other river. Proceed in the same spirit, and by similar subdivisions, with mountains, matters of climate, &c., constructing the lessons entirely after the manner of the object-lesson, as exemplified in §§ 26–28.

79. It is when these and a series of such minute pictures of "home" are conceived, that the child's imagination can take wings to other lands. He can expand the idea of the river at home till it reaches the Rhine, or the Nile, or the Mississippi, or the Amazon, and the circumstances of the one till they pass into those of the others; the mountain at home till he shall see the Alps, with their fertile valleys and lower slopes, and their woods above, reaching upwards to the everlasting snow; or till he shall conceive Etna with its teeming sides and magnificent prospects and the smoke rising from its volcano top. From the "winter's day" at home he may realize the dreary desolation of the Arctic zone, with its freezing temperature, its wilderness of ice, its stunted vegetation, its dearth of animal life, its short cheerless days, and its humble fur or skin-clad dwellers; and the "summer's day" at home may lead him to fancy himself beneath the scorching blue sky of the tropics, with the want of rain, the rapid and

abundant growth of plants and animals, the overpowering heat of day and the dews of night, the jungle or the desert.

80. In this series of lessons the names of countries are sparingly dealt with, a few typical ones alone being given: typical, *i. e.*, of the different climates, but without map in the meantime. And it will be observed that the lessons are not expressly given on particular countries, as Egypt, or Arabia, or Lapland. A country is too vague an idea for a child at this time; he must have some definite object on which to rest his conceptions. Hence, the series is given on natural features, of which he can see certain examples around him, and these are stated as being in particular climates or countries. He associates the country with the object, not the object with the country. And the same holds in the series as now to be continued.

81. To have the means of describing the different regions of the earth more particularly, the teacher should proceed with a series of object-lessons on their productions. Thus, the lion, elephant, camel, tiger, wolf, bear, hyena, kangaroo, buffalo, reindeer, dog, sloth, serpent, whale, shark, eagle, vulture, ostrich, &c., are for geographical purposes so many types. So in the vegetable world are the palm, the olive, the bread-fruit, the vine, the cotton-plant, the tea-plant, the coffee-plant, the sugar-cane, rice, maize, cinnamon, cedar, mahogany, and the like. So with respect to man and his habits would be a series on the articles of food, clothing, and building. In the course of these lessons some of the principal countries—*not every country*—would have been noticed so frequently, that the children must have accumulated a number of ideas regarding each.

82. During this course of instruction, the only maps used are pictures—pictures of objects such as have been alluded to under the object-lesson, and pictures of scenes typical of countries. It is much to be wished that this latter kind of pictures were greatly more numerous and accessible for schools than they are. Thus the map of Arabia for the infant school should be a desert scene, exhibiting the general features of the desert and the sky, the caravan in whole, the camel as an animal, and the Arab himself in his usual costume. On the same principle should we have Egypt represented by its river and its pyramids; India by its rice-fields, its jungles with their fierce inhabitants, its mountain-passes with their elephant trains; China by its tea-plantations; Australia by its bush with the native and the kangaroo; the South Sea Islands by an assembly of natives on land or in their canoes; South America by its forests and its pampas; North America by its cotton-fields and its sugar-fields; the Indian territory by its prairies and buffaloes; the Esquimaux by his sledge

and dogs; Turkey by its mosque and worshipers; Spain by its wild mountain-pass and picturesque traveler; Switzerland by its jagged peaks and chamois-hunter; Italy and Greece by their ruins; Lapland by its reindeer and sledge; and, to come to our own country, Britain by its several scenes of the river crowded with shipping, of the busy factory, of pastoral and agricultural life, and of the hills of the north and west, with the sheep and the deer and the birds that occupy them.

83. The geography of the infant school is thus a series of object-lessons connected by a geographical link. It but prepares materials for the formal study of geography. It may be thought that the use of the map would facilitate the instruction; but it is quite immaterial whether the map be in the school at all or not. It is the business of the next stage of progress to "*localize*" all that has been learnt; which it does by going regularly over the map, and fixing down in position the countries which as yet are only names to the children. The utmost use of the map that should be made in the infant school is to go over with the elder infants, if time permit at the end of their course, on a physical map of the world distinctly outlined so as to show the features of districts, the general outline of what they have already learnt—showing the position of the different countries with whose names they are familiar, collecting all their knowledge regarding each, and explaining how the directions of north, south, east, and west, which they have already learned from observation of the sun's course, and which they have been taught to apply to the whole district about them over which their eye can reach, are exhibited on the map.*

6. *On Reading to the Children.*

84. Reading to the children is an important resource of the infant-school teacher. Considering the universality of this practice in infant family training, it is singular that it should have been so much neglected in school. The benefit of it seems clear and indisputable, in the one case as in the other. It is not for the sake of any instruction conveyed by it that we recommend this practice; the child receives his instruction otherwise. But two advantages flow from it, which are very apparent. The first is the stimulus which it gives the children to learn to read for themselves; and this is peculiar to reading *to* them as distinct from addressing them in words of our own. Let the teacher avowedly read before them; let him manage it so as to

* For giving descriptive lessons on geography, the best helps are familiar accounts of places or of travels. See also, "*First Ideas of Geography*," (Parker;) and "*Near Home*" and "*Far Off*," (Hatchard.)

interest them in what he reads; let him cluster pleasant associations around the book; let him show them how *he* knows the stories only by reading, and how they must learn to read for themselves to know the stories recorded in books; let him, in a word, be thus constantly showing them, directly and indirectly, what a pleasant thing it is to be able to read, and there is certainly present to their minds a stimulus to exertion, a motive of a noble sort or the germ of one, the love of knowledge for its own sake. The second advantage is the culture it imparts to them—culture of the imagination and of the heart, for it is to these the reading should appeal. Direct address, or the relating of stories, may attain the same end; but, even if all teachers had the power of vivid description and picturesque narrative, which they have not, their resources are greatly extended by the use of the book. It presents them with an indefinite range of beautiful ideas, clothed in a fair and ample drapery of words. These have a permanent existence withal, and may be read again and again, affording to the child renewed pleasure at every repetition. Reading to the children, moreover, supposing it conducted in a way to interest them, accustoms them to close and self-sustaining attention.

85. The greatest obstacle to the practice of reading is one of a practical kind; the difficulty of procuring suitable books to read from. To set forth all the characteristics of a child's book would be to recapitulate much of what has been said in the former part of this treatise; but the teacher may be aided in his judgment by bearing the following cautions in mind: (1.) The subject of it must be a story, of which the interest centers distinctly on a person, or on some object actually or virtually personified. Science and history, therefore, however much simplified and garnished, are from their very nature unsuitable; the one being too abstract, the other too complex. (2.) The book must appeal to the imagination, and not merely to the reason or understanding. A cold didactic style, however clear, has no attractions for children. (3.) In speaking to the feelings the book must not assume too great a degree of self-consciousness in the children. Some otherwise suitable books are spoilt by a perpetual moralizing in set terms, and calling for reflections of a nature quite beyond the children to make; forgetting that the morality should be inwoven into the entire web of the narrative, and that they imbibe the impression of it in silently identifying themselves with a personage whose sentiments and actions are moral. (4.) In teaching morality the book must be careful to base it on a sure foundation. A false morality is a dangerous, yet very common, fault in a child's book. Virtue is very frequently associated with personal and temporal advantage, as when "getting

on in the world" is made the basis for inculcating truthfulness and honesty; and vice is frequently condemned on the ground of personal and temporal disadvantage alone. If virtue and vice be grounded on no deeper basis, the child's morality must in course of time be rudely shocked, and perhaps overthrown. Sometimes virtue and vice are founded on extreme cases of reward and punishment. Thus the boy who robs nests has often assigned to him the fate of falling from a tree into a river and being drowned; or the lying child goes on in a wicked course, till perhaps he comes to the gallows, or, like Ananias, is struck dead. Such consequences either rarely or never occur; and if no other penalties of vice are mentioned, the child will conclude from its never seeing these particular ones occur that there are none at all. (5.) The book should portray virtue for imitation rather than vice for avoidance. It is not prudent to anatomize vicious characters before the young, to trace their steps through their various schemes, to show up their designs; even for the purpose of denouncing them. As has been well remarked, "the infectious nature of vices is not destroyed by the reproach which may be attached to them." There is no use of giving children an experience of evil they had better be without. Let their innocence be preserved as long as it may; the knowledge of good and evil will come soon enough. Not the dark side of human nature, then, but the bright should be held up as the picture on which they should dwell. (6.) The subject of the book may either be level to their experience, or it may be remote from it; but the story should not be improbable. Robinson Crusoe and the Fairy Tales are equally admissible. "Once upon a time there was a troop of boys, notorious for all kinds of juvenile wickedness, engaged in a bird's nesting expedition. One, better than the rest, and associated with them then only by accident, was shocked at their profanity and cruelty. They lost their way in a wood and were benighted, and had to sleep under a tree. Presently noises were heard from the howling of the wild beasts. The good boy withdrew from his comrades; who were attacked and destroyed by the beasts. He escaped." This outline, taken from a book professing to be a child's book, shows, with other faults, the absurd improbabilities often set before children. (7.) The sentiment and style of the book should be unaffected. The flattering prettinesses sometimes addressed to the young with the view of getting them to listen, regarding either their personal appearance, or their actions and dispositions, can only breed conceit and affectation in return. And, in point of style, there is an *excess* of expression, a studied affectation and overdoing of childish words, which by no means add to the beauty or simplicity of the narrative.

86. Books for children fall under two classes; those whose subject-matter is real, and those in which it is fictitious. For the former kind many incidents in biography, and many biographical incidents in history, ought to be available. But much less is available than would at first sight appear; which is fully explained if we recollect that a large proportion of these incidents are connected with crime and punishment, and that it is not so much the quiet and unobtrusive virtues they record, as the more noisy and popular. Besides, biography and history are seldom or never written for children. On the whole, the teacher may make more use of these by studying the incidents himself and relating them to the class, simplified in style and somewhat idealized. There remain to be noticed those books which embody fictitious narrative. The utilitarian spirit has almost entirely banished from the present generation the old nursery tales; Cinderella, Aladdin, Sinbad, and the fairies are in disgrace. These and similar tales must and will be brought back again, being fitted for children in all time. They are much superior in respect of healthy influence to the generality of the books which for the present have superseded them. They are not professedly moral tales; they are tales of imagination and amusement; but neither are they immoral; of none of them can worse be said than that they leave morality where they found it. Whilst many of them, especially the fairy tales, have certainly a distinct moral influence, separating good from evil by a wide and impassable gulf, instead of mingling them up together as is now so commonly done. From these tales the teacher may make a selection suitable for his purpose. Stories about animals, and dialogues on familiar processes and things, are very attractive to children, and easily accessible. The fables of Æsop and such like have at all times been favorites with children, and have the advantage of having somewhat escaped the general ostracism of our day. Perhaps the fable is improved for the purposes of reading when neatly done into verse. Next might be named extracts from the works of writers like Miss Edgeworth, Mrs. Barbauld, Mrs. Lee, Maria Hack, Peter Parley, and others; till we come to tales like Sandford and Merton, and Robinson Crusoe. Extracts might also be made from some other established fictions—of course to be somewhat prepared by the teacher. And there is a large variety of children's papers in current publication, where he may find something to serve his purpose. But he should carefully peruse beforehand whatever he reads, to see that its sentiment be correct; even "religious tales," so called, should not be exempted from careful scrutiny with this view, as it is seldom they handle religious truth without distorting it or dislocating its parts.

87. Reading to children, with the view of stimulating the imagination, must be carefully regulated in amount. It is not prudent to let this faculty be dormant; but it is worse to over-excite it. Two or three weekly readings of about twenty minutes each are amply sufficient. But the teacher should watch the effect of his reading on the individual temperaments of the children. Some are more liable to be excited than others; who should accordingly be less frequently present at the reading.*

7. *On Reading and Spelling.*

88. Learning to read is unquestionably a *task* for the child. It should, therefore, not be seriously undertaken until he is fit to encounter a task; it must be carried on with a very careful regard to his strength; and it should be the object of his instructor to make him feel it to be a task as little as possible.

89. The proper view to take of the child learning to read is that he is learning to recognize in written forms the words with which he is already familiar *in speech*. We only surround him with difficulties if we regard his reading-book at this period as the means of extending his vocabulary. He acquires words in the conversational lessons, the natural vehicle for his acquiring them; his reading, let it be repeated, should be nothing more than the recognition of what is already familiar to him. If this be allowed, four things will follow. *First*, he should not begin to read from books till he has considerable acquaintance with spoken language; an acquaintance not only with all the fundamental words denoting relation, some of which occur in every sentence we utter, but with the names of all the familiar things about him, and with the most common qualities of things.

* On this whole subject, see "*North British Review*," August, 1854; "*Necker*," vol. ii., book iv., chap. viii., and "*Home Education*," chap. x. A few books suitable for reading from to children may be mentioned:—

"*Evenings at Home.*"
Edgeworth's "*Early Lessons.*"
"*Winter Evenings, or Tales of Travelers*," by Maria Hack.
Mrs. Lees' "*Anecdotes of Animals.*"
—— "*Familiar Natural History.*"
"*My own Treasury*," by Mark Merriwell.
"*Peter Parley's Tales.*"
Bingley's "*Tales about Animals.*"
"*Lessons from the Animal World*," (Society for Promoting Christian Knowledge.)
"*Life of a Bird*," do.
"*The Nursery Tales.*"
Gammer Grethel's "*German Fairy Tales.*"
"*Granny's Wonderful Chair*," by Frances Browne.
Æsop's "*Fables.*"
"*Woodland Rambles, or Conversations on Trees.*"
"*The Mine*," by Rev. I. Taylor.
"*Arabian Nights.*"
This list may be largely increased by any teacher who will spend an hour in a bookseller's shop.

Secondly, the reading-lesson should consist of words which have a sense for him, and not only so, but of sentences which express complete thoughts; otherwise there is nothing for him to recognize. Lessons consisting of columns of single words, and much more of columns of syllables or parts of words, are not suitable. He should have in all his lessons the stimulus and pleasure which arise from the recognition by the eye of what is already known to his mind. *Thirdly*, the subjects of his reading-lessons should be things with which he is familiar from his observations. He will recognize most readily what he best understands and sympathizes with. *Fourthly*, his reading must be systematically interwoven with his speech. He should be engaged in a conversational lesson on the subject he has been reading about, which shall embody the words he has read. This will give a practical aspect to all he reads, and secure from the beginning the habit of reading with the understanding.*

90. For the purposes of the reading-lesson we may reckon two periods in infant-school attendance. The one is the preparatory period, that in which the child is being prepared for reading, rather than actually reading; the other is that in which reading from books is a systematic lesson. We may consider the middle of the fifth year as the boundary between the two; so that the first shall extend over a year at least. During this period the child is unfit to be subjected to tasks. He may be engaged with the first formal steps of reading, as we shall see; but the real preparation for his subsequent reading is the frequent conversational lesson, which develops his general intelligence and gives him some power over spoken language.

91. His preparatory lessons in reading should leave him in possession of all the fundamental words in written language, and of a number of the names of familiar things and qualities. The method of giving these lessons is still matter of opinion. The old way, and perhaps still after all the common way, is to teach the sounds of words apparently by associating these with the series of letter-names in the words; but this is to teach spelling rather than reading. It is evident that there is no natural association between the names of the letters composing a word, and the sound of the word. More recently it has been sought to gain the end by decomposing words according to the powers or sounds (and not the names) of the letters. This method is certainly capable of doing good service when properly used; but it has suffered somewhat from injudicious application. The

* The reader will find the argument for carrying the child's understanding along with what he reads, and the manner of doing so, fully stated in Pilans' "*First Letter on the Principles of Elementary Teaching*," see "*Contributions to Cause of Education*," pp. 8, &c.

attempt to apply it universally to English words leads to an elaborateness and intricacy of system quite unsuitable for a class of infants; who do not learn reading, or any thing else, by rules. Finally, it has been proposed to teach the child to read without the aid of either the common or the phonic spelling; the words being simply viewed as pictures, with which the eye is to make itself familiar, *in whole*, as it does with other pictures.

92. Our first aim in teaching the child reading must be to make his path interesting; our second, to make it clear. To attain the first, we must awaken his curiosity, intelligence, and activity about the things of which he reads; to attain the second, we must give him whatever aid is to be derived from a rational classification of letters or of principles of sound. There is certainly a danger of trusting too exclusively to the second, from the very fact that it requires us more or less to construct a *system* of procedure for ourselves; it should be remembered, however, that whilst the aid derived from this source may seem to make the child's path clear, it does not necessarily make it interesting. That is secured only when we attain our first aim; which must therefore be viewed as the higher of the two. But good teaching will keep both in view, and will strive to make them act harmoniously in support of each other. With these preliminary remarks, the order and method of the early lesson may now be suggested:—

93.—(1.) *The Alphabet.*—The names of the letters must be learned, not so much for any direct use they are of in learning to read, but just because they are the names of things that require frequently to be spoken about. And they may be acquired at the very beginning of the course, in a short time, and not only without causing the child any trouble, but with positive interest to him. By far the best way is by the use of letter-cards and slates. Whatever order the letters are taken in, let the card first be shown to the class, the form of the letter carefully traced and described, a drawing of it made on the blackboard, and from that by the children themselves on their own slates, and the name frequently repeated in course of the process: when they have all been gone over in this way, with the necessary revisals, let the teacher question them on the cards at random, adding an easy or perhaps amusing description of the forms, and let the children question each other with them in various ways as their ingenuity may suggest. Both the capitals and small letters may be learnt in this way.* Thus the lessons on the Alphabet are rather form-lessons than reading-lessons.

* What Locke says of reading is interesting. He recommends that children be amused into a knowledge of letters and words; suggesting the use of an ivory ball with twenty-six sides,

94.—(2.) *Words of two Letters.*—These words should be learnt at once, having the sounds attached to their forms without any analysis into their separate letters. They are almost all irregular in sound, and do not admit of phonic analysis, even if it were desirable. The most convenient way of teaching them is to have them printed on separate cards like the letters, and a similar process gone through with them. The ingenuity of the children may be agreeably and profitably exercised in arranging them into sentences. For this purpose there should be a board or frame conveniently constructed, so as to admit of a row of sentences being placed on it. To these words of two letters many words should be added which consist of only two sounds, though of three letters, *e. g.*, *are*, *you*, *the*, &c.; and some of the most common of three sounds, *and*, *but*, *with*, *not*, and such like. If this apparatus can not be had, lesson-sheets are the best substitute; but an interest attaches to the use of such an apparatus which even lesson-sheets can not attain.

95.—(3.) When they come to read from the lesson-sheets, the class should be taught to perceive analogies of sound in words; that is to say, they should be exercised in phonic analysis. Thus the words *at*, *an*, *ox*, *all*, *in*, *it*, &c., are the roots of so many classes of words:—

at	b-at	an	c-an	all	b-all
	c-at		f-an		c-all
	f-at		m-an		f-all
	h-at		p-an		h-all
	m-at		r-an		t-all
	r-at		v-an		w-all
	s-at				

ox	b-ox	it	b-it
	f-ox		f-it
in	f-in		h-it
	p-in		p-it
	s-in		s-it

Whenever, therefore, a number of words from any such class occurs in a reading exercise—*e. g.*, *bat*, *cat*, *fat*—they should be compared, so that the *common* element *at* may be recognized, and also the *different* elements, to wit, the sounds attached to the letters *b*, *c*, and *f*. The number of classes of words thus formed may be largely increased

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and a letter on each, for the child to play with; or four dice, one for vowels, the rest for consonants to throw words with. "I know a person," says he, "who, by pasting on the six vowels on the six sides of a die, and the eighteen consonants on the sides of other three dice, has made this a play for his children, that he shall win who, at one cast, throws most words on these four dice; whereby his eldest son [yet a child] has played himself into spelling, with great eagerness, and without once having been chid for it, or forced to it."—"*Locke*," sects. 143–155. Compare these lines in Cowper's "*Conversation*:"—

> "As alphabets in ivory employ,
> Hour after hour, the yet unlettered boy,
> Sorting and puzzling, with a deal of glee,
> Those seeds of science called his A, B, C,
> So language," &c.

The idea of cheating the child into knowledge, however, is not quite sound, as going to confound work with play. In the infant school we must accustom the child to the idea of *work* but this work may quite well be made agreeable.

by taking as roots certain syllables which are not words, but from each of which a number of words arise by the prefixing of a consonant; *e. g.*,

-ot	-ug	-og	ill	-ad
c-ot	h-ug	b-og	b-ill	b-ad
h-ot	m-ug	d-og	h-ill	l-ad
l-ot	d-ug	h-og	m-ill	h-ad
n-ot	r-ug	f-og	t-ill	s-ad
p-ot	j-ug	l-og	k-ill	m-ad
r-ot		fr-og		
sh-ot				

and some others. These words, it must be understood, do not occur to the class, as they are here given, tabularly. The reading-lessons are constructed so as to present them in course, and they are selected from these for the purpose of analysis. Classes of which *can, cat, car, cap,* are types, having the common element first and the differing one at the end of the word, should also be examined. No great number of reading-lessons is required to put the children in possession of all the sounds of the letters, both consonants and vowels. When this is done, they have the key to reading in their hands; and they should be required systematically to use it henceforward.

96. No reading-book should be put into the hands of the class during these early lessons. This is a point of some importance; a class who are obliged to look individually at their books are thereby precluded from that mutual sympathy and common activity which is necessary to their success in any exercise. Lesson-sheets are an intermediate resource between the letter and word cards just described and the use of the reading-book. The cards and lesson-sheets, and the blackboard and their own slates, should be the sole materials for the instruction in reading of a class under four and a half years of age.

97. The teaching should be continued in the same spirit when the child takes the reading-book in hand. (1.) The phonic analysis should accompany each lesson, so that he may have every facility which the ear can afford to reading. And the teacher may observe that, whilst it would certainly be better to have the lessons arranged in the reading-book for this analysis, he is not altogether dependent on whether they are so or not. By using his blackboard he may give analogies of sound from every lesson. Irregular words can not be thus analyzed; their sounds should be at once told. (2.) The subject of every reading-lesson must be carried home to the child's understanding, so that it may be thoroughly lodged amongst the things which have an interest for him. And not only *at the time* should

teacher and pupils talk over the subject; it will be found very conducive to the end in view to recommend it to their attention over the evening so that they may collect any points of information at home about it which they can, and to recur to the subject on the morrow or soon after. (3.) If the moral aids to the reading-lesson be wanting, it will avail little to have those of an intellectual or mechanical sort. It is they alone that can supply motives to the child for exertion. Patience, kindliness of temper, good humor, keep the child pleased with itself, and with its teacher; which is essential to success. It is not indispensable that the child should be pushed on rapidly; but it is indispensable that he should like the work he is engaged in. Success in teaching the elements of reading seems often a very arbitrary thing; it is the moral qualities of the teacher which will be found to explain the results.

98. Reading includes not only the power of recognizing words, but of uttering their sounds correctly; and to this aspect of it great attention should be paid in the infant school. Children pick up the sounds of words by imitation, so that they are liable to error from two causes; either from having wrong models for imitation, or from their own imperfect imitation of their models. Under the first head are to be reckoned provincialisms of all sorts, but also deliberate mispronunciations encouraged in them by their parents under the notion of accommodating their speech to the wants of the children in point of simplicity. Under the second head we may set the confounding of similar or allied sounds by the vocal organs, or the imperfect formation of difficult sounds; the confounding of the liquids *l* and *r*, *s* and *th*, *t* and *k*, *ghr* and *r*, &c. Such impurities of articulation occur in every infant school; the pupil who exhibits them should be taken apart, and be made to observe the true sounds with the ear and the manner of their formation by the vocal organs with the eye, till he can utter them.

99. Another fault to be guarded against is indistinctness, arising either from a general feebleness of articulation, or from the suppression or slurring of some part of the sound of a word. This occurs most readily with the liquids, especially when two of these, or a liquid and a dental, follow each other in successive syllables. To correct this fault, if it have been already incurred, the pupil should be accustomed to full and strong utterance of all the parts of the word, even overdoing it for a time; reading sentences with a slight pause after each word, and words with a slight pause after each syllable. The most certain preventive of this fault in an infant school is the habit of distinct and forcible articulation in the teacher, in speaking as well

as reading. The value of this habit as a qualification in an infant-school teacher is for the most part not sufficiently estimated.

100. These are the faults to which infants are most liable in their reading. But the teacher must cultivate, so far as there is opportunity, all the recognized qualities of good reading; *e. g.*, proper time, which consists not only in stopping at the pauses, but in giving proper lengths to the vowel-sounds, as, *feel*, *sweet*, *good*, *dream*, *broad*; proper tone and pitch, which varies with each voice, but which is equally free from monotonous drawl or sing-song on the one hand, and from an irregular scream on the other.

101. The practice of simultaneous reading, moderately indulged in, may be attended with some good effects. *First*, in respect of time, it tends to correct both the extremes of quick and of slow reading by requiring conformity to one standard. *Secondly*, it tends to highten distinctness of utterance from the very effort needed to observe a measured time. One is always struck by the degree to which distinctness characterizes simultaneous utterance. *Thirdly*, it tends to modify any peculiarities of tone in individual readers; after a little practice, a harmony of intonation is almost always established. Too much, however, must not be expected from simultaneous reading; it tends to correct faults rather than to impart any positive excellence.

Spelling.

102. According to the common way reading is acquired through spelling. This relation should be reversed; spelling should be learned through reading. There should be no formal lesson on spelling given during the preparatory lessons on reading; and yet it would be a mistake to suppose that the child is not learning to spell during these, for spelling is a habit of the eye. The forms of words must be familiar to the eye before there can be any spelling. This then is the contribution which the early lessons in reading make to the child's progress in spelling—and it is a great one—that they stamp the images of the words on his mind, so that his eye recognizes them when it sees them, and, consequently, any deviation from their form.

103. The elder infants may be practiced in spelling; but not alone upon any prepared amount, nor in any one lesson in particular. It may be introduced as effectively in the object or form-lesson as in the reading-lesson. The exercise is designed to test their intimacy with the forms of the words that have come before them during their preparatory lessons in reading. It holds with spelling, as with reading, that the subject should be words forming a sense. Besides the names of things, sentences should be spelt through, by single words or by a

number of words together. Much is attained if the children can spell monosyllabic words with some facility when they leave the infant school.

104. As spelling is learnt, not for the purposes of spoken language, but for those of written, so spelling and writing must be conjoined as soon as practicable. The elder infants, who have previously had practice in writing on their slates the letters of the alphabet, and also the simplest kinds of words, may profitably be engaged in this rudimentary dictation-exercise, which serves the double end of teaching them both writing and spelling.

Grammar.

105. Grammar is sometimes taught in the infant school, but with little propriety. The teacher is often tempted to introduce the elements of this subject by seeing that the children seem to understand his familiar oral illustrations of noun, verb, and other parts of speech. But this understanding is not real; it can be turned to no practical account. Nothing whatever is gained by such an anticipation of future studies. The work has all to be done over again; and it occupies time which may be more profitably occupied with subjects of whose propriety there can be no dispute. Therefore it should be altogether deferred.

IV. RELIGIOUS INSTRUCTION.

106. "Our Father who art in heaven" should be the key-note of all the religious instruction conveyed in the infant school. In these words "is comprised all religious truth, as the plant is in the seed." God is our father; for He is the creator of ourselves and of all we see around us. He is our father; and, as a father, He provides lovingly and carefully for all His children. He is our father; and, when He sees His children in danger, He rescues us from it, having even sent into our world his Son, who is our elder brother, to save us from our greatest danger—the death of sin. He is our father; and so we have "the bright hope of eternal life, for why should a father give life to his children in order afterwards to slay them?"* He is *our* father, loving not one only, but all the members of His great family; who ought, therefore, to love one another. He is our father; and so should we give to Him all the love and reverence and obedience which are due to a father. He is our father *in heaven*, all-wise therefore, holy, and good; and so should we try to be like Him, and humbly seek to know and do His will. He is our father in heaven; and,

* These quotations are from the work of Girard, already referred to for the manner in which it exhibits the whole course and spirit of religious instruction.

if we be dutiful children, He will take us to dwell with Himself in light forever and ever. "Our Father in heaven!" words worthy, from their inexhaustible depth of meaning, and fullness of obligation, to preface the model prayer which our Divine Teacher, the Son of our Father in heaven, hath given us!

107. This idea of "God our Father in heaven" must be made the center of the whole circle of doctrines we teach to children. The circle is wide; but in traversing it we must ever keep the center in our eye, as the sun which gives light and life to the whole. There is no difficulty in reaching the infant mind with doctrines like the following; which, so far from being received by it as strange, seem to it quite natural, from that "sense of God" which pervades its being: God the creator of the world and of man—God the preserver of all—His attributes of power, wisdom, eternity, unchangeableness, omniscience, omnipresence, holiness, truth, goodness—His Son, our Redeemer, Teacher, Example—the love, reverence, and obedience we owe Him—our sinfulness, and our duty to follow holiness—the Scriptures, His Word, which we should read—prayer—the reward of the good—the shortness of life—death—life in heaven with himself. This outline comprehends the substance of our religion; and is an amply sufficient basis on which to rear instruction in its practical duties.

108. Every thing depends on the *manner* in which we convey this instruction. In this we must have respect to the laws which regulate the whole instruction of the infant school. An abstract style of teaching is unsuitable, however clear our proofs or simple our phraseology. The "Catechism" is the exponent of this style of teaching, and can never, therefore, be the vehicle of effectual instruction by itself. Its forms of expression are mere words to the child.* We must use the conversational form of instruction, which allows us to present to the child whatever subjects and phases of subjects are fit for him. And these oral lessons must convey their teaching by means of "examples" or "illustrations." The doctrines of Scripture must be learned from the narrative of Scripture; and thus the two will be interwoven as they should be, each throwing light on the other. The complexion presented by the religious instruction of the infant school to a person viewing it as a whole is that of a series of stories, which, in the first instance, engage the imagination and feelings of the child from their

* The teacher is often obliged, in deference to the wishes of parents, to use a catechism. There are one or two simple catechisms constructed for children. In teaching the catechism, there are but two alternatives, either to hear the children simply repeat it, or to connect the illustrative method of instruction with it. The mere explaining of its words and sequence conveys no ideas to the child.

own interest; but each of which suggests a doctrinal lesson, and the whole series of which is so arranged as to leave the child in possession of a connected scheme of the doctrines of the Bible. If this manner of teaching by story be followed, there is little danger of the instruction falling into the great error which most besets it, that of becoming too theological; which it does either when it tries to explain abstruser doctrines, which are as difficult for men to comprehend as for children, or when it uses technical theological terms instead of the language of every-day life. In stating the doctrines as they successively flow from the daily lesson, by far the best way is to express them in selected texts from Scripture, clear, short, and emphatic; which the children should commit to memory and often be made to repeat. It is well to have a series of these on the school-walls; but they are for the most part not sufficiently, often they are never, used.

109. The following scheme will exemplify the nature of the lessons; and the teacher may expand it indefinitely. It will be seen that the channels of instruction are various; being most commonly incidents from Old or New Testament history, sometimes the parables of our Lord, and sometimes mere descriptions addressed to the imagination. The same truth may be enforced by many lessons, for the sake of impressiveness, either in the same aspect or in different aspects:—

Truth to be Learned.	Channel of Instruction.	Texts.
God our Father....	Comparison with earthly Parent. Parable of Prodigal Son.	"Our Father who art in heaven." Ps. ciii. 13.
God the Creator....	Descriptive Lessons: of the world. " heavens. " man and beast.	Gen. i. 1. Ps. xxxiii. 6.
God the Preserver..	Incidents in the life of Noah, Abraham, David, Daniel, Elijah, Peter, Christ.	Ps. xxxvi. 6. Ps. cxlv. 20.
God's Power	Creation. Flood. Red Sea. Miracles in life of Daniel, Peter, Christ.	Ps. clxvii. 5. Luke i. 37. Matt. viii. 27.
Omniscience.....	Incidents in life of Abraham, Moses, Elijah, Peter, Pharaoh, Herod.	Acts i. 24. 1 John iii. 3-20.
Omnipresence.....	Jacob. Daniel. Christ.	Prov. xv. 13. Gen. xxviii. 16.
Holiness	Our first parents. Flood. Sodom. Abraham, Moses, &c.	Ps. cxlv. 1 John i. v.
God our Redeemer in Christ. Christ our example, teacher, elder brother, intercessor, Saviour.....	Under this head may be introduced the chief incidents in the life of Christ, both parables and miracles.	Corresponding Texts.

Truth to be Learned.	Channel of Instruction.	Texts.
Our own sinfulness. Holiness alone from the Lord.....	Moses. Israelites. David. Peter.	Do.
Death.....	Any of the prominent characters in Scripture.	Do.
Resurrection	Christ's; Lazarus'.	
Future State of Life or Death.....	Parable of Lazarus. Transfiguration. Our Lord's parable of sheep and goats.	

By filling up this outline a little, a series of lessons for a year might easily be constructed. And this would suffice for the purposes of doctrinal instruction in the infant school; it would be better to revise in the second year than to extend the course. In this case, a higher style of treatment would be necessary; which might be varied by sometimes basing the instruction on Scripture emblems. These are not less excellent a field of instruction for the younger infants than for the elder, who can bring the knowledge of Scripture incidents already acquired to bear on their illustration.

110. The same method must be followed substantially in teaching moral and religious duty. The only difference is that in addition to the incidents of Scripture the teacher will find a large store of anecdotes in secular narrative serviceable as the ground-work of his instruction. He should be acquainted with many of these; indeed, he should be a reader of biography for the purpose. With each lesson a text of Scripture should be committed to memory. In this way should be enforced the whole range of virtues appropriate to children: obedience to parents, to teachers, respect to old age, truthfulness, honesty, justice, a forgiving spirit, kindness, kindness to animals, avoiding story-telling and nicknames, charity to the poor, patience, meekness, diligence, faithfulness to trust, redeeming the time, order, punctuality, economy, cleanliness, &c., &c. Many stories may be found for each of these, in addition to those which the teacher's imagination may construct from observing the children's conduct toward each other; so that this practical religious instruction is always going on, and yet is ever fresh.

111. Apart from the formal religious lesson, much instruction may be given incidentally, suggested either by what is observed in the course of the secular lessons, or by circumstances which occur in the daily intercourse of the school. Such instruction is very valuable; it is the test of the sincerity of the formal instruction—that which shows to the children that the teacher's mind habitually turns to the solemn truths he teaches in the religious lesson, and which exhibits the proper

use to make of these truths—that which alone gives a religious character to the whole work. It is that which inclines the child to try every thing by the light of God's law, and to take a Christian view of all His works. At the same time little can be said of it except that it should be given; the time and manner of giving it can be reduced to no rule. But the teacher who keeps in view the high moral ends of his teaching will never lack opportunities at which, without any abruptness or forcing, to drop the word in season into the willing ear of the child.

112. Whilst it will hold as a rule that in seeking to reach the mind with religious instruction, the same principles of teaching must be followed which are approved of in the secular lesson, it will always contribute to effectiveness of impression that the whole treatment should give indications of greater seriousness of manner than the ordinary school-work demands. A powerful influence will be exercised on the young mind if it is wont to see sacred subjects handled in a way which betokens the reverent recognition by teacher and pupils of a Power before whom both must bow. Any expedients in class-management, therefore, which interfere or seem to interfere with this, may well be dispensed with, even though experience recommends them for adoption in the secular lesson. The object of this is to set bounds about the religious lesson, that it may be indeed felt by all to be, what it is, a religious thing.

113. Specimens of the different kinds of lessons are subjoined by way of appendix. With reference to these, it may be observed that the subject-matter of the religious instruction is the same for the younger as for the elder infants. Their less advanced condition must be provided for in the manner of giving the instruction. The story, the object that forms the emblem, the features of the scene, in a word, whatever appeals to the observation must be dwelt upon, and the abstract instruction diminished in relative amount; the lesson itself should also be shorter, and the language more familiar.

Examples 1.

Christ's Power—Scripture Narrative—Matt. viii. 23–27.

Introduction.—Jesus' habit of going about preaching—traveled like other men—how travelers go? he would go mostly on foot, for he was poor—he lived much about the Sea of Galilee—often crossed it—how would he do so? where would he get the boat?

Scene described.—Describe the scene here—he and his disciples (name some) embarking—a little ship with a sail—the hills round the lake—how the gusts of wind sometimes come down—the storm raised—the large waves breaking over the vessel—what would they feel? why? and what would become of them?

Jesus.—What did they do at last? How they found Jesus—strange—was he in any danger? why not? what they thought he would do to them—they had seen him do strange things before. Ought they to have been afraid then? They should have trusted Him. What he told them.

The miracle.—What he did—his *word*—the wind ceased and the big waves fell, and there was a calm—danger removed. They had often seen a change, but none like this—what was strange here—what would they think? And other sailors who might be there who did not know him? Suppose the same case now.

Lessons.—What they said—what Jesus showed—could any man show such power? Jesus was God—and how good he was to his disciples, even though they were wrong—they would like to have such a friend.

Personal application.—Where is Jesus now? Powerful still, and good still, though we can not see him. Let us be his friends, and love him, and ask him to do us good; he sees us and hears us, and he will do it.

2.

114. God's goodness—Scripture Emblem—"The Lord is my Shepherd."

The emblem illustrated variously in its natural use.—What the shepherd does:—

Watches his sheep on the hill-sides, and in the fields—keeps away danger, either from men or wild animals.

Feeds them—seeks out the best pastures—the green pastures—beside the quiet streams—not amongst the rocks—or brings them food into the fields, when there is not grass for them.

What the shepherd does.—Leads them carefully from one place to another—how he gathers them from the hills or the field—watches them along the road, that none stray—and carries the young ones when they are tired.

Sometimes he is himself in danger—among the hills when he loses his way, or when snow comes—but he faces this danger for his sheep—for he is kind, and patient, and watchful.

The spiritual truth.—Who is the Shepherd spoken of here? Who can be the sheep? Christ says, "I am the good shepherd, and know my sheep, and am known of mine—the good shepherd giveth his life for the sheep." The kind of people that are his sheep? Those who love and obey him—how safe they must be with such a shepherd!

Personal application.—We need guidance in the world—for, like sheep, we are weak—let us love and follow Christ, that we may be his sheep, and that he may care for us.

Note.—Lessons on emblems very often fail from too great refinement in tracing the analogy; the truth is then apt to be lost sight of in verbal distinctions. We may illustrate the emblem in its natural use variously, as has been done above under three heads; but we are not to seek for as many corresponding heads in enforcing the fact symbolized in the emblem.*

* The teacher may derive assistance in giving lessons on emblems from Stow's little work on "*Bible Emblems.*"

3.

115. Christ's love for children—Scripture precept—"Suffer little children," &c.

Scene described.—Describe the scene of Jesus preaching to the people—he often did so—one time he was preaching, and there was a crowd around him—men and women, and *children* too. And the people were pleased with his mild and loving words—they brought their children to hear him—why? What they must have thought of Christ. He had always blessed people and done good to them.

The children received.—Disciples were there, as they always were—stopped the people—thought their Master had no time. He *had* very much to do, but he did not turn away the little children. He saw what they were doing, and prevented them.

Jesus' words.—His words—"*Suffer*"—suppose you ask me to let you go out, then I allow you, or *suffer* you—suppose you are writing on your book, and I tell you not to do it, then I "*forbid*" you. What Christ said, then, was that his disciples were to let the mothers bring their children to him, and not to stop them.

Lessons.—Christ cares for children as well as for men—he was once a little child himself. If he loves them what should they do to him? What he wishes them to be? Kind and obedient, &c., as he was—and if they are so he will bless them. He has many children in heaven with himself.

4.

116. One of a series of lessons on the Lord's Prayer—"Thy kingdom come."

Introduction.—The terms *King*, *Kingdom*, and *Subjects*, illustrated correlatively.

God's kingdom.—*Kingdom* amongst men is a particular part of the earth, as England, France, &c. Kingdom of God not like this—ranges over the whole earth, and has men of every nation and clime—the Briton, the Frenchman, the African from the sandy deserts, the Laplander from his icy plains and hills, &c. (Draw out this picture somewhat.)

Its laws.—*Kingdom* amongst men governed by certain laws—sometimes good and sometimes bad. Christ Kingdom has laws too—tell me some of them. Here is one, "Thou shalt love the Lord thy God," &c.—here is another, "Live at peace with all men,"—and another, "Do justly, love mercy," &c.—and another, "If thy brother offend thee, forgive him," &c. These are good laws—we must try to keep them—how happy men would be if all kept them!

Its prospects.—*Kingdom* of God not yet spread over whole world—name (descriptively) some people who are yet without it—once it only included one people (the Jews,) in a little country—now it has spread over much of the world—it will spread every where—Christ's promise.

How it is to be spread.—How the *Kingdom* of God is to be spread—by men preaching to the nations who are not in it—missionaries—what we can do—support them with our money when we have any—many missionaries in different lands, and needing to be supported—something else we can all do—pray God to

help the missionaries, and to make the heathen willing to listen to them—nothing can be done without this.

Lessons.—Repeat prayer for spread of the Gospel, § 119. When Christ was on earth, he taught us to pray—and one of the things he told us was, to pray thus: "Thy kingdom come"—what we should pray for frequently.*

5.

117. Moral lesson—on Truth.

Introduction.—Children, you have all seen the cherry-tree growing—on the house-wall, with its long branches like arms, tacked to the wall to keep them up—sometimes on the school-wall.

The cherry-tree.—A story of a cherry-tree. One was growing on the wall of school, and it had much fruit on it—perhaps a basketful of cherries. It belonged to the teacher, and though not in the play-ground, the children could reach some of the branches, and the cherries on them—would it be right in the children to touch them? why not? We should take nothing that is not our own. Well, they did not touch them.

The crime.—Two little boys came to school—once they passed the tree and stood to look at it—and, as they looked, they wished for a cherry—one asked the other to pull one, but he would not—then he told him to touch it, and see how nice and big it was, which he did—when he had it in his hand, the other pushed his arm, and the cherry came off—the little boy was much afraid, and cried—the bigger one picked it up and divided it, and told him to say nothing about it.

The discovery.—By-and-bye the teacher missed the cherry, and asked some of the children, but they could not tell him of it—he asked the bigger of the two boys, who hesitated, and at length blamed his companion—the little boy was going to be punished, but, when the teacher asked him, he told the whole truth.

The indirect lie.—Which of the two do you think should have been punished? why? The little boy actually broke it off, but he could not help it—he did not know what was coming—dishonesty of big boy, and then, when the master asked, he told a lie. It was a lie, even though he himself did not pull it. This shows us that we may tell a lie, when our words may state truly what took place. Children sometimes tell lies in this way.

Practical lessons.—What would the rest of the children think of the boy who told the lie? Would they love him? trust him? Would God be pleased? what does he wish us to do? He will bless the child who speaks truth. Let us always tell the truth, then, even though it may lead us into punishment. Our hearts will tell us we have done right, and all that know us will think well of us.

Point to, and have repeated, the Scripture maxim on truth. Repeat the prayer against lying, § 119.†

118. Exercises of devotion are the practical recognition of all we

* For helps in giving religious instruction to infant classes, the teacher may with advantage consult the little works "*Peep of Day*," "*Line upon Line*," Draper's "*Stories from the Old and New Testaments*," "*Religious Instruction for Children*," by Miss Mayo; and works like Kitto's "*Daily Readings*," which supply materials for descriptive lessons.

† Since writing this lesson, I find that the incident related in this story happened in one of Mr. Wilderspin's schools. The reader may see it given at length in his "*Infant School System*," chap. x.; where he should turn to see the precise use to which the incident was put when it occurred.

learn regarding religion. Of course no infant school is opened or closed for the day without them; but perhaps more fruit might be reaped from them than is often attempted. They include two parts, sacred song and prayer. For the former, the children should learn a few hymns, or verses of hymns, suited to their capacity, after due explanation of their contents. To all, particular tunes should be attached; and, after they have been learnt, they should never be sung simply as singing exercises; a feeling of solemnity must attach to them. For the latter, it is common to use the Lord's Prayer, both in the morning and the afternoon, having it repeated simultaneously by the children in a becoming posture and manner. This is very proper; but it is desirable that other forms of prayer should be lodged in the children's minds; short, simple, and expressing each a single want. They should be called on to repeat these during the day's work, as occasion may suit, that they may both acquire the spirit of prayer, and become familiar with its proper elements. The following are offered as specimens for the elder infants; and the teacher may construct others for himself:—

119. Morning prayer.—O God, thou hast been very good to me through the night. I have laid me down and slept, for Thou hast kept me. Keep me through this day. May I ever think "Thou, God, seest me." May I do what is right. May I obey my parents and teachers. May I be kind to my companions and to all. O God, help me to be good, as Jesus was. Amen.

Evening prayer.—O God, Thou has kept me safely through this day; and I thank thee. O God, who lovest little children, Thou hast given me what I need: food to nourish me, a house to shelter me, and friends to love me. Help me to think of Thee more, and to do what Thou desirest me. Watch over me in my sleep, O God, for Jesus' sake. Amen.

A prayer for friends.—O my God, all good things come from Thee. Thou hast made me, and Thou keepest me by day and by night. Thou hast given me father and mother, and sister and brother, and friends, to love me and watch over me. O God, do Thou bless them. Give me a good heart that I may love them and be kind to them. And do Thou help us all to do Thy will, as Jesus did. Amen.

For a sick child.—O our heavenly Father, be kind to our sick companion. Thou hast done this: Thou knowest what is good for us all. Thy will be done. Be Thou, O God, near him, and give him rest. May he feel Thee beside him, and be at peace. Comfort his friends who are watching him. Restore him to us, if it please Thee, O God, for Jesus' sake. Amen.

For the spread of the gospel.—O God, Thou hast given us thy Holy Word to tell us what is right, and we thank Thee. Thou hast sent Jesus, thy Son, to bless us. Thou hast told us of heaven where we shall dwell with Thee, if we are good. Thou hast told us to put away sin: O God help us! May all the children

in the world soon hear of Thee, and of thy Son, and of heaven; so that they may put away sin. And then we shall all serve Thee together, for Thou art our Father in Heaven, who lovest us all. O God, hear us! O God, save us! O God, let all the world soon know Thee and thy Son! for Jesus' sake. Amen.

Against lying.—O God, Thou hatest lying lips. I have sometimes said that which was not true; make me sorry for it, and do Thou forgive me. Help me to tell the truth at all times, to my parents, my teachers, and my companions; for this is pleasing to Thee, O God. When I am tempted to tell a lie, may I remember that Thou art near me, and hearest what I say. Grant this, O God, for Jesus' sake. Amen.

It is well that the children should learn some prayers like these to say by themselves. In addition to this, they may often repeat after the teacher short ejaculatory prayers, in keeping with the subject of the lesson, consisting of a single sentence; without formally learning them. This will give them the habit of prayer, and the benefits which result from a prayerful frame of mind.

XIII. METHODS OF INSTRUCTION.—GENERAL PRINCIPLES.*

BY THOMAS MORRISON.

METHOD.

1. In strict propriety of language, the term method has reference to the particular mode in which the subject matter of education is developed and presented to the mind. It is merely the outward form, while instruction is the substance. It is the shell, while the instruction communicated is the kernel. But the kernel determines the form of the shell, not the shell that of the kernel. So it is in method—it must be determined by the object we aim at; it will take its complexion from the views we entertain in regard to what constitutes education. If we consider education as consisting in the communication of a certain number of facts, in loading the memory without cultivating the imagination or the reason, we need pay but little attention to the method by which we accomplish the desired result, provided we do reach it. But if, on the other hand, we regard education as the development of an inward life, as the evolving into active and harmonious exercise the various principles of our nature; and if we believe that these principles exhibit themselves in a determinate order and according to fixed general laws; then the method by which we can secure this development becomes of great importance. So long as we hold low and inadequate, or, it may be, entirely erroneous views in regard to the end of education, so long will we pay little attention to the methods we pursue; but, in proportion to the comprehensiveness and soundness of our notions regarding education, will be the care and anxiety exhibited to follow what reason and experience have proved to be the best methods of conducting the education of the young. And this question of method is not one of secondary importance, which the teacher may neglect or not according to his pleasure. He can only neglect it at his peril; for, properly put, the question resolves itself into this—how

* "*Manual of School Management, for the use of Teachers, Students, and Pupil-Teachers.*" Glasgow: Hawthorn, p. 356. CONTENTS.—I. Introduction. II. Teacher. III. School-house. IV. Registration. V. Classification. VI. Organization. VII. Discipline. VIII. Method. IX. Alphabet. X. Reading. XI. Examination. XII. Spelling. XIII. Writing. XIV. Arithmetic. XV. Grammar. XVI. Geography. XVII. History. XVIII. Form and Color. XIX. Singing. XX. Oral Lessons. XXI. Religious Knowledge.

can I best communicate instruction to a child so as best to secure the development of all those powers which the Creator has bestowed upon him? How can I best train him to discharge his duties here, and to be prepared for the life to come? In all questions of method, accordingly, the first point to be settled is what is the end of education, and when this has been determined, there arises the second point demanding a solution—how can this end be most effectually secured? Method solves the second problem; but its solution depends upon our having a thorough understanding of the first. There are two methods by which a subject may be developed and presented to the mind—the Synthetic and the Analytic.

2. We do not propose to balance these two methods against each other, and to determine which of them ought to be employed in any given instance, for the judicious teacher will employ either according as he finds it suitable to the subject of instruction, to the proficiency of his pupils, and to the accomplishment of the end he has in view. Synthesis commences with principles and rises from these by regularly connected steps to the conclusion aimed at; it ascends from the particular to the general. It is the logical method of developing truth. We have admirable specimens of this method in the propositions of Euclid, where the reasoning, based on a few axioms or universally admitted truths, proceeds in regular logical sequence, until the conclusion sought is arrived at. Analysis, on the other hand, commences with the general and proceeds to the particular. The following illustration, taken from the writings of Dugald Stewart, may serve to give not only the probable historical origin but also the application of these two terms:—

"Suppose a knot of a very artificial construction to be put into my hands as an exercise for my ingenuity, and that I was required to investigate a rule, which others, as well as myself, might be able to follow in practice, for making knots of the same sort. If I were to proceed in this attempt according to the spirit of a geometrical Synthesis, I should have to try, one after another, all the various experiments which my fancy could devise, till I had, at last, hit upon the particular knot I was anxious to tie. Such a process, however, would evidently be so completely tentative, and its final success would after all, be so extremely doubtful, that common sense could not fail to suggest immediately the idea of tracing the knot through all the various complications of its progress, by cautiously undoing or unknitting each successive turn of the thread in a retrograde order, from the last to the first. After gaining this first step, were all the former complications restored again, by an inverse repetition of the same

operations which I had performed in undoing them, an infallible rule would be obtained for solving the problem originally proposed; and at the same time, some address or dexterity, in the practice of the general method, probably gained, which would encourage me to undertake, upon future occasions, still more arduous tasks of a similar description."

Such then is the meaning of the two terms. Now although the Synthetic method be admirably adapted for presenting truth in a systematic form, it is questionable if it be in all cases, especially with the young, the best method of communicating truth. Children long for realities, for things, but by this method they are kept for a long period on the outskirts of the subject; the way has to be cleared; definitions have to be settled; and first principles laid down, on which to rear the intended structure. But all this preparatory work, essential in a scientific treatise on any given subject, is wearisome to children; they are unable to appreciate what is not near and tangible. Now analysis possesses this advantage that it takes things as they really exist, presents them in their every-day dress to the minds of children, and thus not only interests them by the exhibition of what is familiar to them, but exercises their ingenuity in leading them to discover their properties. If Synthesis be the logical method of developing truth, Analysis may be called the natural. Its work must precede that of synthesis. In childhood, and on to a considerably advanced state of boyhood, we know that the perceptive faculties are principally exercised, and that the logical do not manifest themselves until a later period. The exercise of the perceptive faculties, indeed, prepares the way for the due exercise of the logical. It is on the facts collected, and the observations made in childhood and boyhood, that the man reasons and compares. It would follow from this that with children we should most frequently employ the analytic method. We may give an illustration of these remarks by referring to two very opposite methods of teaching Geography. According to the synthetic method, a book of definition is put into the hands of the children. These definitions are carefully committed to memory, little care being taken to see that they are practically understood. When these definitions have been lodged in the memory, the child is gradually led on step by step, and ends exactly where he ought to have begun—with things around him. Now this method would be admirable, if our object were to give the child a strictly systematic view of the subject; indeed, by no other method could we accomplish this. But while we are thus laying down our definitions, and our first principles, there is danger of disgusting the child altogether. He can not see the

far off object we have in view, and hence he wearies of our dry prelections, and ceases to take any particular interest in what has no immediate concern with him. But by the analytic method, we begin at home. The small hill, seen from the school window, with the stream running down its side, is made the basis of a lesson on the mountain and river systems. The child is at once interested. He knows the hill; he has forded the stream; he has played on the slopes of the one; and cast his tiny line into the other. The teacher, who commences in this method, will find that he has touched a sympathetic chord in the breasts of his scholars, and he will be enabled to lead them almost at will. Definitions can be wrought in as the lessons proceed, and after a time, when analysis has cleared the way, synthesis will step in and arrange into a beauteous whole the *disjecta membra*, which have hitherto floated on the surface of the mind. We shall have frequent occasion in the remaining chapters of this work to refer to the application of these two methods; and in the meantime we shall content ourselves with remarking that he who would adequately fulfill the duty of an instructor, would require to study carefully the human mind, and to mark and observe its mode of working, that he may thereby be enabled to suit his instruction to the circumstances of his scholars, and to wield at will either of the methods we have briefly described. "In nothing is the really able and skillful master more easily discriminated from the sciolist, and mere adherent to a method or system, than by his ability to interchange these forms at will, and, when one mode of presenting the illustration or statement of a new truth or fact to the mind, does not succeed in riveting attention and in securing its clear and vivid apprehension, to have recourse instantly and with perfect naturalness and ease to another and more suitable expedient. This is the true test of a skillful teacher; and, in the hands of such a man, the conduct of the processes of intellectual instruction will include the chief formal peculiarities of every rational method that has been propounded. Nothing can give this mastery of methods, but a complete and philosophical examination and a thoroughly intelligent appreciation of all, and to this lofty exercise it is most desirable that the aspiring teacher should immediately and strenuously address himself."*

3. While the analytic and synthetic methods are, strictly speaking, the only two methods that can be used in presenting truth to the mind, the practical application of them may and often does vary according to circumstances. Thus we may teach individually, simul-

* Report by John Gibson, Esq.—"*Minutes of the Committee of Council on Education*," 1848-49-50, vol. II., page 614.

taneously, or mutually by making the pupils instruct each other. It is to be observed, however, that these various plans have reference, not to the method by which truth is developed, but to the particular way of handling, if we may so term it, the pupils. Whether the teaching be individual, simultaneous, or mutual, it must proceed on one or other of the methods we have described in the preceding paragraph. In individual teaching, each pupil is brought immediately and directly in contact with the mind of the master, and may thus be expected to receive a more powerful and lasting impression than when he is addressed as one of many. It is not meant that, in individual teaching, each scholar is examined alone. The scholars, whether the instruction be individual or simultaneous, are arranged in classes. What we mean by individual teaching is that each child in any one class is singled out and made to perform his share of the work. Thus, is the lesson a reading one, each pupil in the class reads a certain portion; and so in regard to any particular lesson. This being premised, we say that it is only by individual teaching that the master can come into direct and immediate contact with each scholar, and that he can effectually secure that the prescribed task has been performed, or the necessary explanations received and understood. When we remember that education owes its chief value to the direct influence which a thoroughly equipped and well-furnished mind brings to bear on the young; that it is this collision of a fully developed and matured understanding with the crude embryo notions of the young, which kindles their intellectual life, and molds their plastic spirits; we can not fail to perceive that any plan which brings the master-mind of the school most closely in contact with the minds of the scholars is a plan which ought not to be neglected. Hence the teacher, who considers the high end of education, will constantly endeavor to be in living contact with the intellectual life of his scholars. He will endeavor always to have a connecting wire between himself and them, along which the pulsations of his own mind may travel, and beget similar pulsations in them. But not only is individual teaching thus valuable and important, it is the only safe mode of ascertaining that a prescribed task has been performed. Children, like others, are easily overlooked in a crowd; and when care is not taken to see that each child does most regularly and punctually do his duty, we throw temptations in his way which are sometimes too strong for his honesty. And in regard to explanations, of some rule suppose in arithmetic, the only mode of testing the extent to which the explanation has been clearly and thoroughly understood, is to single out successive individuals in the class and cause them to repeat what has

been explained. In every case, in which any explanation of a general principle has been given, the teacher should satisfy himself of the reception of the information by questioning individuals. We shall have occasion, as we go on, to show more fully the application of these remarks. In the meantime we may repeat that in teaching, the more each child is individualized, the more closely the master deals with him alone, the greater likelihood will there be of his instruction taking effect, and springing up in the full luxuriance of a rich and fruitful harvest.

4. The term *simultaneous*, as employed in education, is sometimes used to denote that the children are taught in classes, and not one by one. We employ it here, in opposition to the term *individual*, to signify that the questions are addressed to the whole class indiscriminately, and that the whole class are invited and expected to answer. The advantages of such a plan, if skillfully and judiciously used, are, that it enables the master to accomplish a larger amount of work, and to develop more powerfully the sympathy of numbers, than is possible in individual teaching. But the dangers of such a plan in the hands of an unskillful or lazy teacher are manifold and obvious. An unskillful teacher is apt to deceive himself, and to do incalculable injury to many of his pupils, by failing to perceive that the answers to his questions, or the filling up of his ellipses, proceeds only from a few pupils, and that too generally from those who were acquainted with the subject, while those who were ignorant of it, and who, on that very account, ought to be the objects of his special care, remain ignorant still. The lazy teacher has recourse to the method to save himself from trouble, and to conceal from himself and others the general inefficiency of his teaching. Where the teaching is purely simultaneous there can be but little of that direct contact of mind with mind, which gives to education its highest value. The master is working, to a large extent, in the dark. He can not tell the peculiar idiosyncrasy of each child; he can not guage his mental caliber; and is thus deprived of his greatest lever as an educationist. In its own place simultaneous instruction is useful, but if used alone, it is utterly pernicious. Its proper sphere is when the master is elucidating general principles; when he is discussing some law or principle, suppose, in Geography; when he is explaining some rule in Arithmetic, or giving some general lesson in Science. For such purposes, simultaneous instruction is admirably adapted. So long as the master is engaged with the general, he may teach, not only successfully, but perhaps most successfully, on the simultaneous method, but the moment he leaves the general and comes to the particular, he must refrain from the simul-

taneous, and adopt the individual method. Thus, for example, in giving to a class an explanation of the rule of simple subtraction, the master may convey the general principle to his pupils simultaneously; indeed we believe that he will find this the true and safe method. But he will commit a sad mistake if he adhere to the simultaneous method when he comes to apply the rule to particular examples. As soon as he thus begins with particulars, he must individualize his scholars, in order to ascertain that each pupil has thoroughly grasped and mastered the explanation for himself. This illustration will tend to show the place and power of simultaneous instruction. One great end of education should be to educe the individuality of each child; this end ought never to be lost sight of, and it is because we dread the effect which simultaneous teaching would have on this end, that we would caution the young teacher to be sparing in the employment of it, but rather constantly to aim at the establishment of a living and life transfusing sympathy between himself and each of his pupils, by bringing himself daily and habitually in contact with their mental life.

5. Mutual Instruction has not produced the results which, at first, it seemed to promise. Nor is this to be wondered at, when we reflect that the fundamental idea of pure mutual teaching was false. The object aimed at by it was noble; and the founders of it were actuated by the most philanthropic motives. Children were growing up ignorant and untrained; and it was a truly laudable and praiseworthy enterprise to attempt to train them by the assistance of the more advanced scholars. And, moreover, at a time when money was profusely lavished on all schemes, except on education, the plan had the seeming advantage of educating many at a small expense. But, as we have said, the plan was based on a wrong principle. The true end of education was lost sight of, and the blind were set to lead the blind. Children, whose notions on all things were crude and ill-formed, were intrusted with the work of educating other children, whose mental attainments were almost on a level with those of their instructors The mutual or monitorial system has, in consequence of this fundamental error, proved a failure. It has been superseded by the Pupil-Teacher System, which possesses this advantage over that which it has supplanted, that the agents it employs are more advanced in years, and it is to be expected in intelligence also; that they serve a regular apprenticeship, and pursue a systematic course of training. But even with these advantages, we would fain hope that the pupil-teacher system is but the prelude to something still better, and that the time is not far distant when, instead of raw lads being sent to operate upon

the young, every school will have its regularly trained master and its quota of trained assistants proportioned to the number of scholars in attendance. We had occasion in a previous chapter to point out the proper sphere of pupil-teachers in the school. We merely refer to the subject again, with the view of impressing on teachers the absolute necessity of intrusting to pupil-teachers only such kind of work as we have shown them to be capable of performing.

6. In questioning a class of children, there are certain points to which the young teacher would do well to attend. We have already stated the extent to which the simultaneous and individual methods of examination may be respectively employed; and we have shown that the latter is the safer and more effective of the two. But in individual examination, it is not necessary that the teacher commence with the pupil at the top of the class, and go regularly through. Such a plan, if the class is large, would have the effect of leaving the large majority of the scholars comparatively idle during those portions of the examination which did not immediately concern themselves. The consequence would be that those who were not being directly examined would be apt to become careless and inattentive, and thus distract the master's attention. In order to obviate these disadvantages, the master should first state the question to the whole class; and, after allowing sufficient time for reflection, he should then single out some scholar indiscriminately to give the answer. In this way, the attention of all is kept up, and the examination proceeds quietly and unostentatiously, it may be, but very effectively. Each child is liable to be called upon to answer any or every question, and he is thus kept from being indifferent. The time spent in conducting an examination in the mode we have described is not greater than in the ordinary way. But even were it greater, the plan, if adopted, will amply repay any loss of time, for what seems to be lost in time is compensated for by the entireness and thoroughness of the work. A judicious master will, by a single glance of the eye, know whom to select to give the answer, and his power over the whole class will be as great as over each unit of the class. Such a method of questioning combined with occasional simultaneous questions, will prevent the spirits of the children from flagging, and will sustain the interest unbroken to the close of the examination. Every question should be stated clearly, succinctly, and with strict avoidance of all ambiguity in the expression of it. Any thing approaching to technical terms should be seduously guarded against, until it is known that the terms are clearly understood by the children. General abstract terms are useful, only when their meaning is clearly perceived by the mind.

When once their true signification has been thoroughly grasped, such terms are of the highest utility, inasmuch as they save much needless repetition. But they are only of value when understood. The teacher, before making use of such terms, will accordingly see to it that the scholars have formed a clear conception of their meaning. Thus, for example, to one who can interpret them, the terms employed in natural history possess a deep significance, and a few such will often convey to a naturalist a more accurate notion of the thing signified than whole pages of verbose description. But the ability to repeat these terms is not co-extensive with the ability to interpret them; and it is quite within the bounds of possibility that children may be taught to repeat all the classifications of a Cuvier, without having the slightest understanding of their meaning. In putting questions, accordingly, and in accepting answers, the teacher should take particular care to use or to receive no word, the meaning of which is not understood. The question should be graduated to suit the capacity of the scholar. There should be no excuse either for no answer or for a wrong one. Every child should be expected to answer; and if in any case his inability to answer arises from his not understanding the question put, the teacher should at once throw it into a different form, or, if it be too complex, he should resolve it into its constituent parts. Every expedient should be had recourse to in order to secure an answer from each child, and not merely to secure an answer, but the correct one. Such a plan develops the confidence of the child in his own powers, and when we have taught a boy that he can do a thing, we have put him on the way of actually doing it. The child should be required to give a complete answer to every question. The mere substance of the answer should not be accepted —the matter of it is very important, but, in some respects, the form of it is equally so. The answer should contain a completely developed proposition; for, in such a case, the teacher can turn the examination on any lesson into one of the best, because a practical, means of teaching correct speaking. Dry grammatical rules will never by themselves teach the correct method of speaking or writing the English language. It is the reduction of these rules to practice that is useful, and every lesson should form an exercise in the correct use of language. The pupil should also be encouraged to give the answer in his own terms, and it will frequently be found that these terms, although perhaps not strictly pure, are yet remarkably expressive. A double benefit results from such a plan; an opportunity is furnished of giving the correct expression for the thing signified, and at the same time the master learns whether the pupil has acquired the

knowledge of the thing itself, or whether his knowledge is confined to the mere name. In some respects, the mere knowledge of the name is utterly valueless, compared with the idea which the name represents, and it is of the utmost consequence to distinguish accurately how far the child's knowledge really extends; and this can be best done by allowing him to give utterance to his views in his own words. But, as we have remarked, for all terms which are merely provincial, the teacher ought to substitute the word which is the real sign of the idea. Questions should be so framed as not to contain the answer, and, in putting them, the voice should be so modulated as not to suggest it. If these things are not attended to, the question serves no good purpose—it is a waste of time. In history, a question of the following kind is of no value whatever—"Was not Elizabeth of England contemporary with Mary Queen of Scots?" There can be no doubt as to the answer, and the question is useless. Neither should questions, requiring for answer the monosyllables yes or no, be introduced, except as leading questions, when they furnish the basis of a continued examination. The great end of this kind of examination is to stimulate thought, not to call forth mere smartness; and hence the examination should be conducted calmly, with great deliberation, and with a due regard to the ability of the particular pupil. Young teachers are very apt to confound rapid questioning and answers with sure and effective teaching, and to imagine that the largest amount of work is performed, where there is most excitement and physical movements. We would take it upon us to caution all young teachers against being misled by this too current belief, for, in many instances, the very reverse would be nearer the truth. Some minds may be so formed as *to think* with great rapidity, but the vast majority are not so constituted; and, as the true teacher must rest satisfied with nothing short of the evolution of thought, he must learn carefully to discriminate between the semblance and the reality of actual thinking.

7. Much of the information communicated by the teacher to the children will be given in oral lessons. Almost all the branches of education should be taught, to a large extent, orally, and this holds especially true of lessons on science, natural history, and such like subjects. Text-books on such branches are comparatively of little service, and those at present in use are so miserably adapted to their purpose that they frequently do more mischief than good. But however excellent the text-book may be, the master's own mind must, after all, be the chief storehouse whence the information of the pupils is derived. Now in conducting these oral lessons, when the object is

not to examine the pupils on the amount of knowledge which they possess, but to consolidate and extend that knowledge, it is evident that direct questioning will not, by itself, be sufficient. Direct questioning, whether conducted individually or simultaneously, forms an admirable method of taking stock of the pupil's acquirements, but it is not equally well adapted to lead the pupil on to new regions of thought, and new fields of observation. For it will be observed, that in oral instruction the teacher assumes that the child is ignorant of the facts which he is about to state, and of the conclusions which he intends to deduce from these facts. No doubt, a question may be of such a suggestive nature, as to lead the pupil to divine almost intuitively the answer, and may in this way become the means of leading him on from one point to another, until an entirely new subject has been brought before him. But, in general, it will be found that such suggestions can be far more effectively given by introducing to the pupil's notice a certain portion of the statement, and, when he has thus obtained the requisite hint, by allowing him to complete the idea. This prevents the lesson from degenerating into a mere lecture, which, as an educational power, is utterly valueless where children are concerned. The teacher is introducing his pupils into a new untried field. He will do them little good if he walk rapidly through, discoursing eloquently it may be, on its wonders and beauties; but he may arouse their attention, secure their interest, and thus set them a thinking, if he moves slowly forward, giving a hint here, and a hint there, but allowing the pupils to discover for themselves the objects of interest which lie in their path. Here, we believe, lies the great value of *Ellipses* in education, and, if properly conducted, their power is undoubtedly great. But the young teacher would require to guard sedulously against the abuse of them. When by their assistance he has led his pupils one decided step onward, he must pause and ascertain by direct question to what extent the point arrived at has been understood. For it is quite possible that a great fund of information may have been communicated, and that the children may have filled in the ellipses properly, but this is no valid proof that the lesson as a whole has been received, and thoroughly mastered by the children. To ascertain this, they must be subjected to a rigorous cross-examination, which, however, need only embrace the leading points in the lesson, for if these are clearly understood, it is an almost infallible sign that the whole bearings of the subject have been comprehended. Ellipses are thus mainly valuable in communicating information, but the working in of that information into the very texture of the mind must be accomplished by questioning, or, as in the case of arithmetic,

by requiring the pupil actually to reduce to practice the information he has received. Questions and Ellipses are thus not the opposites but the complements of each other. Each has its own place in education, and each may be made to subserve the most important ends. But it is only when the two go hand in hand that good will result; if either (and especially if ellipses, being by nature the weaker power,) is allowed to usurp an undue influence, the instruction will, to the extent of that usurpation, be unsatisfactory. And we may remark, in conclusion, as was remarked in a former paragraph, that he will most efficiently fulfill the high ends of his office, who can employ these methods at will, and who can have recourse to either when he finds it most suitable to reach and to arrest the minds of his pupils.

EXAMINATION.

8. The information which children derive, even from the most carefully prepared series of school books, ought to bear, in every rightly conducted school, a very small proportion to that which they obtain from the well-stored mind of the master. Not only is this the case, even the information contained in the books will not take its full effect on their minds, unless it has been thoroughly wrought in by close and rigid examination. In order, therefore, to secure that the lessons are understood, the master must, from the youngest class to the highest, institute a searching analysis of what has been read. In the younger classes, this examination will be mainly confined to questions which exercise the observing faculties and the simplest ideas of relation; but as the pupils advance in years and in understanding, the analysis will embrace questions tending to cultivate the reasoning powers and imagination, and at a still later period those of abstraction and generalization. We do not mean that the teacher should frame his questions with the special view of cultivating these faculties in their due order; we believe this to be impossible; for in every lesson there will necessarily be questions which appeal more or less to all these various faculties. The teacher, however, who is acquainted with the order in which these faculties develop themselves, will, from this knowledge, derive many valuable rules to guide him in examining a class on any given lesson. Thus, for example, with a class of very young children, in whose lesson the names of the sun and moon occurred, he would never once dream of attempting to explain the way in which these bodies are related to each other; or, should the seasons be mentioned, he would confine himself to a few general questions on the characteristics of each, without entering on an explanation of the causes which produce them. In questioning a class

upon the subject matter of a lesson, the teacher should employ every opportunity of deepening, extending, and consolidating the knowledge of the subject which the children may have acquired from the reading-book or from other sources. In order to illustrate our meaning, we shall give one or two examples of lessons suited to different stages of advancement, with brief notes of examination on each.

9. Examples for examination.

Junior Classes.

Example 1.—The rat sat on a mat. The fat cat ran to the rat. The rat ran in-to the box? Can the cat go in-to the box? No, the fat cat can not go in-to the box.

On the assumption that the children are familiar with the forms of the words, and can read the lesson with tolerable fluency, we would proceed to question them on its meaning. And here we would remark that, even at this early stage, it is desirable to lead the children to analyze the sentences. We need say nothing to them of the term analysis—it will be learned in time enough.

Examination.

What two animals does your lesson speak about? Have you ever seen a rat? A cat? Which is larger? Which is stronger? Where was the rat sitting? What was it doing on the mat? What was sitting on the mat? What is a mat? Where do you see it? What is its use? If a little boy got his shoes dirted what should he do before going into the house? The mat is used for—*wiping the shoes.* The rat sat on—*a mat.* Was that its own place? Where should it have been? As it was sitting on the mat who saw it? What kind of cat was it? And what did the fat cat do? The fat cat ran—*to the rat.* (Describe the running—show how the cat would sit and watch, and then bound forward. This will amuse and interest the children, and keep them fresh for the remainder of the examination.) Do you think the rat would wait on the mat? What would it do? It would—*run away*, run away to—*its hole.* Where did it run? What is a box? What made of? How would it get into the box? What must have been in the box? You see then the rat ran into—*the box* through—*a hole.* Did the cat go into the box? Why not? The hole would not let in—*the cat*, but it let in—*the rat.* Would the cat go away from the box? What would it do? It would—*watch* beside the—*box*, to see if the rat—*would come out*, &c.

Many other questions might be put—anecdotes told, and such interest thrown into the lesson that the children would be sorry when it was over. We have thrown in a few ellipses in the foregoing examination—the words in *italics* being supposed to be filled in by the children.

Example **2.—Look at the Lion. He is a fierce, cruel beast. He is very strong and very terrible. He has strong limbs; a long, flowing, shaggy mane; and a long tail. His roar is very fearful, and very terrible; it is like thunder. The lion is often named the king of beasts. The lion is sly; he is a beast of the cat kind, and all beasts of the cat kind are sly and cunning. He creeps behind a bush, or a tree, then crouches down and springs suddenly on his prey, &c.**

Such a lesson as this should be accompanied if possible with a drawing of the animal described; for words, however clear and explicit, will convey to the minds of children but a faint idea of the form and shape of an animal which they have never seen. The first sentence presupposes that the children have a picture before them. In lessons of this kind, the two main points to be attended to are—that the children know the meaning of the terms used, and then their application in the particular passage. We shall endeavor to indicate these points in the following sketch.

Examination.

What have you been reading about? Well here is a picture of the lion. Have any of you ever seen one? What kind of beast is he? He is—*fierce and cruel.* What is the meaning of fierce? of cruel? (If no answer is given, take some illustration to assist them in bringing out the meaning. In all probability, they have a very good conception of the meaning, but want words to express it. Contrast is often useful in assisting them in this respect; thus, Would you call the sheep a fierce and cruel beast? What would you call it?—*mild and gentle.* Now is the lion like the sheep? He is not—*mild and gentle.*) If I were going to describe a boy to you, so that you would know him when you saw him—would I say that he was fierce and cruel? I would tell you what he—*was like.* I might tell you what kind of clothes he—*had on*, &c., but I would not say that he was—*fierce and cruel.* Now then what would you use these words for? (to tell his disposition, or his character.) When I say that the lion is fierce and cruel, what then do I describe? (his character.) (In this way the right application of these terms is acquired, and the best possible foundation laid for the correct use of language.) Does your lesson say any thing else about the character of the lion? (Such a question will at once show if your meaning in the preceding examination has been understood. If the children answer, that he is sly and cunning, you may rest assured that they have followed you.) Yes, he is—*sly.* Like what other animals? What is a mark of all animals of the cat kind? They are—*sly and cunning.* How do you know that he is sly and cunning? Why is he said to creep? Have you ever seen an animal of the same kind do the same thing? What animal? When? When he gets behind a tree what does he do?

(Show this by an appropriate action.) How long will he crouch? and when some animal comes up, what does the lion do? How does he spring? Why suddenly? What on? &c.

In the same manner the terms employed to describe the form, the parts, and the roar of the lion may be gone over; and if this be done with life, with appropriate action, and with apt illustrations, the children will follow the course of the examination with intense interest. We have seen two hundred little children so excited by a lesson of this sort, graphically given, that they would scarcely have been surprised had they seen the lion spring on its prey, so real had the master made the picture.

Under this same division we shall give a short poetical extract, and make one or two observations on the mode in which it should be treated.

Example 3.

Hark the mower's whistling blade,
How steadily he mows;
The grass is heaped, the daisies fade,
All scattered as he goes.

So Time, as with a stern delight
'Mid human havoc towers,
And sweeps resistless in his might
Kingdoms as grass and flowers.

The flowers of life may bloom and fade,
But He, in whom I trust,
Though cold, and in my grave-clothes laid,
Can raise me from the dust.

There are in this passage three distinct parts—the natural picture, drawn from a very common incident—the analogy between this picture and time—and the contrast between the fading flowers, and the wreck of kingdoms and the Immortal who looks on; and these three must be gone over in their order. Notice first the picture—What is a mower? what does he do? why is his blade called a *whistling blade?* Note the second line. What is meant by mowing *steadily?* Show the effect—the grass is heaped—can not resist—it falls before the blade. Note also the particular term "daisies,"—it makes the picture more graphic. The poet does not content himself with the somewhat general term *grass*, but he singles out the "daisies," why? They are beautiful—objects of interest to children, and this one word vivifies the whole picture—although beautiful, they must fall before the whistling blade. Similar instances of the use of particular terms may be noticed, *e. g.* our Saviour's allusions to the "lilies," the "ravens," &c. Milton's description of Satan,—"Sat like a cor-

morant." Notice secondly the analogy. What is compared to the mower? Why is Time so compared? What does the mower do? and what Time? (*mows, sweeps.*) What sound does the blade give? What clause in the second part corresponds to *whistling* (as with a stern delight.) The blade seems to—*whistle*, so Time seems to feel —*a stern delight.* The blade mows among—*grass and daisies*, so Time towers among—*human havoc.* Note the exact application of *human*, that it means—*havoc produced among men*, and not—*havoc caused by men.* How does the mower move? (steadily,) how does Time? (resistless in his might.) Bring out also the effects produced by each, and show how Time has swept kingdoms, by instancing some. Notice thirdly the contrast. I—any one, who saw and observed the things mentioned in the two previous stanzas—will not thus perish—I may be cold, and laid in grave-clothes, but still He, in whom I trust, can raise me. Compare Job, xix. 25, 26. John, xi. 25, 26. With a class somewhat advanced compare also such a passage as the following:—

'Tis night, and the landscape is lovely no more;
I mourn, but, ye woodlands, I mourn not for you;
For morn is approaching, your charms to restore,
Perfumed with fresh fragrance, and glittering with dew;
Nor yet for the ravage of winter I mourn,
Kind nature the embryo blossom will save,
But when shall spring visit the mouldering urn!
O, when shall it dawn on the night of the grave!

Compare also the whole of the eighth paraphrase.

Senior Classes.

10. In examining the senior classes, the same *kind* of questions should be put as in examining the junior; the main difference in the questions should be one of *degree.* Both in prose and in poetical extracts the terms employed must be carefully explained, correct definitions given, the figurative use of words pointed out, and the aim and scope of the whole passage laid bare by a skillful analysis of all its parts. The information contained in the passage should be largely supplemented by suggestions and ellipses on the part of the master, and, as far as possible, each lesson should be complete in itself. Whatever be the particular aspect of a subject which the lesson treats of, that aspect should be a whole. If the lesson, for example, regards a leaf, the form, structure, and use of leaves should be brought out, and their relation to the trees on which they grow. In this way, each part of any given subject will fall into its proper place, and the mind will acquire the important habit of grouping things together by natural principles of association, and of calling

them up when necessary. The derivation and formation of words, the changes which they have undergone both in form and meaning, and their composition, should be noticed and illustrated. In poetical extracts, the figures and the imagery employed should be dwelt upon, the use and application of them should be shown by examples, and care taken to foster the habit of a rigid adherence to the correct use of language. In advanced classes, the reasoning of the author should be examined; the premises on which he builds noticed, and the conclusions drawn from these premises tested. In this way, fallacies in argument may be detected, and the best possible foundation laid for a thorough study of logic; and all this without having recourse to the mystical jargon with which professed treatises on logic too frequently perplex the young student. It need scarcely be remarked that no false sentiment should pass unchallenged, come from whatever source it may; the morbid sentimentalism which disfigures too much of our literature should be sternly exposed, and every effort made to enlist the sympathies and the affections of the young on the side of what is true and honest and of good report. We can not give full illustrations of all these remarks; we shall content ourselves with one or two meager outlines.

Example 1.—The mariner's compass is a wonderful though a simple instrument. It consists of nothing more than a needle and a card; and yet it enables the mariner to traverse the pathless sea with perfect confidence. The needle, being converted into a magnet, or loadstone, which is easily done—and being balanced on a point above the center of the card—always points to the north: and the sailor has therefore only to examine the card, on which the cardinal points, east, west, north, and south, are marked, to know in what direction he is steering.*

In conducting an examination on such a passage as this, (which we have selected on account of its succinctness,) it would be well to have either a real compass, or a representation of it. If, however, the teacher has neither, he can easily have recourse to the blackboard, which will enable him to give the pupils a tolerably correct idea of the instrument. The leading points to be brought out are the two parts of the instrument, the relation in which they stand to each other, and the use which the sailor makes of it. It consists of a needle and a card—an ordinary needle would not suit—why?—it must point to the north, which a common needle does not do. Hence what must be done to the needle? How is this done? (the lesson does not state this, the teacher must, therefore, bring it out by illustration and suggestion.) We have now the needle prepared. What else does the lesson say is necessary? What kind of card? What is written on it? But will it do to lay the needle on the card? Why

* M'Culloch's "*Series*," p. 43.

not? What must be done? Thus we train out the two parts, and their relation to each other. Then what does the sailor do? How does he know his direction? (This can be illustrated on the blackboard.) More particularly—what is the mariner's compass said to be? why is it called a *compass?* Why the *mariner's compass?* What is a mariner? What other name is given to him in the passage? He is called a mariner because—*he is engaged on the sea,* and a sailor because—*he sails on the sea.* How do you know that the compass is a *simple instrument?* that it is a *wonderful instrument?* Why is the sea called *pathless?* What do you mean by a *path?* (In this way the exact meaning of the word is brought out, and the children can, in future, apply it correctly.) The derivation of some of the words might also be pointed out, but of this more anon.

Example 2.—It has been already mentioned, that water exposed to the air is gradually converted into a state of vapor, which, on account of its specific levity, ascends into the atmosphere. This vapor presents itself in various forms. When the air holds it in solution, it is invisible, just as salt dissolved in water is invisible; but when the vapor condenses, the watery particles become visible either in the form of clouds and mists suspended in the atmosphere, or in that of rain, dew, snow, and hail, falling to the ground.*

Substance of lesson (to be given by the pupils in answer to questions by the teacher.)

1. Water exposed to the air is gradually converted into vapor.
2. On account of its lightness the vapor ascends into the atmosphere, where
3. It assumes different forms, which are visible or invisible.

(*a*) Invisible when the air holds it in solution.
(*b*) Visible when it is condensed so as to form clouds, rain, dew, &c.

The above may be obtained from the pupils in something like the following manner:—What follows on water being exposed to the air? Is this vapor the same weight, lighter, or heavier, than the air? What is the consequence? What forms does it then assume? When is it invisible? What is meant by the air holding it in solution? Can you give an illustration of that meaning? Because the clouds and mists are easily moved about by the currents of the air, what are they said to be? When does the vapor assume the form of clouds and mists? When does it assume the form of rain, snow, hail and dew? Such an examination as the above will enable the teacher to form an idea as to how much of the lesson is understood by the pupils; and if time permit, the facts of a previous lesson on evaporation may be revised and used in explanation of the statements made in this lesson. This will train the pupils to use the information they possess, and to realize the truth, "knowledge is power." The analysis may be thus continued. How is water converted into vapor? How

* M'Culloch's "*Course of Reading,*" p. 249.

does the air convert the water into vapor? What is the name given to this process? On what does the amount of evaporation depend? &c.

***Example* 3.**—While a plant differs from an animal in exhibiting no signs of perception or voluntary motion, and in possessing no stomach to serve as a receptacle for its food, there exists between them a close analogy both of parts and functions. The stem and branches act as a frame-work or skeleton for the support and protection of the parts necessary to the life of the individual. The root serves the purpose of a stomach by imbibing nutritious juices from the soil, and thus supplying the plant with materials for its growth. The sap or circulating fluid, composed of water, holding in solution saline, extractive, mucilaginous, saccharine, and other soluble substances, corresponds in its office to the blood of animals; and in its passage through the leaves, which may be termed the lungs of a plant, it is fully exposed to the agency of light and air, and experiences a change by which it is more completely adapted to the wants of the vegetable economy.*

Subject of lesson. Analogy between a plant and an animal. Before noticing the analogy, it is necessary to dispose of the points of difference.

An Animal *has*	A Plant *has not*
Perception,	Perception,
Voluntary Motion,	Voluntary Motion,
A Receptacle for food.	A Receptacle for food.

What is meant by perception? If I prick you with a pin what do you feel? What sensation have you? Now, do you think a plant feels pain like you? It has neither the sensation nor the perception of *pain*. What is meant by motion? What by voluntary motion? Did you ever see a plant moving? (Some may answer yes, which will furnish an opportunity of bringing out clearly the meaning of the term *voluntary motion*.) In the same way notice the difference in respect of stomach. An animal then differs from a plant, in that the former has—*perception, voluntary motion*, and a *receptacle for its food;* while the latter—*has not.*

2. Analogy both of parts and functions.

1st.—Of parts.

(*a*) An animal has a frame-work or skeleton; a plant has also a frame-work in the stem and branches.

(*b*) An animal has lungs; a plant has also lungs in the shape of leaves.

2d.—Of Functions.

(*a*) In both, the frame-work supports and protects the parts necessary to the life of the individual.

(*b*) In the plant, the root serves the same purpose as the stomach in the animal.

(*c*) The sap of the plant corresponds in its office to the blood of animals.

(*d*) As the blood of animals is exposed to the action of the air in its passage through the lungs, so the sap of plants in its passage through the leaves.

(*e*) The sap thus exposed is more completely adapted to the wants of the vegetable, as the blood is to the wants of the animal economy.

Each of these parts must be clearly elucidated, in order that the

* M'Culloch's "*Course of Reading*," p. 126.

children may have a thorough understanding of the lesson. We need not, however, enter into details, as we have already indicated the mode of procedure.

Example 4.

The sky is changed!—and such a change! Oh night,
The storm, and darkness, ye are wondrous strong,
Yet lovely in your strength, as is the light
Of a dark eye in woman! Far along,
From peak to peak, the rattling crags among,
Leaps the live thunder! Not from one lone cloud,
But every mountain now hath found a tongue,
And Jura answers, through her misty shroud,
Back to the joyous Alps, who call to her aloud!

And this is in the night:—Most glorious night!
Thou wert not sent for slumber! let me be
A sharer in thy fierce and far delight,—
A portion of the tempest and of thee!
How the lit lake shines, a phosphoric sea,
And the big rain comes dancing to the earth!
And now again 'tis black—and now, the glee
Of the loud hills shakes with its mountain mirth,
As if they did rejoice o'er a young earthquake's birth.

If the previous stanzas have been read, the force of the exclamation at the beginning of the passage will be at once apparent. It may be noticed that such contrasts are frequent in Byron's poetry. Some of his finest passages depend upon the effect produced by the introduction of opposites. Thus in his description of "Waterloo," he passes from the brilliant scenes of a ball-room to the bloody field of battle. In "The siege of Corinth," he draws a beautiful picture of the sea sleeping calmly in the moonlight, and immediately thereafter introduces us to a scene so awfully horrible as to make the blood run cold. Various questions may be put on the passage—we can only give a specimen of a few. What two figures of speech are employed in the first stanza? (apostrophe and personification.) Where is the apostrophe? Give other examples of the same figure. Point out the particular words which indicate the personification, (leaps, answers, joyous, &c.) What two qualities does the poet associate with the night, and storm and darkness? Are these qualities necessarily connected? Taking the common ideas regarding these qualities, do we generally conjoin them? What illustration does the poet use to enforce his meaning? Point out the terms in the illustration which corresponds to the terms in the thing illustrated. Show the propriety of the epithet *live* as applied to thunder. What idea does the sound of the words "the rattling crags among, leaps the live thunder" seem intended to convey? Give other instances where the sound is made to echo the sense, as in Milton's famous line "On their hinges grate

harsh thunder," &c. What are the mountains represented as doing? What particular mountains are singled out? Notice the effect produced by thus as it were localizing the description. "Every mountain" is a somewhat vague term, but by introducing "Jura" and the "Alps," the poet gives his description a local habitation, and the mind realizes it far more easily than if he had employed only general terms. Notice the graphic position in which the poet, in imagination, puts these mountains; the Alps, as if in sympathy with his own spirit, rejoicing in the storm, and calling aloud to Jura, which re-echoes the shout. Why is Jura said to be covered with a shroud? &c. The second stanza should be gone over in the same manner.

Example 5.

I dare do all that may become a man;
Who dares do more is none.

A passage so full of meaning as this is, should be thoroughly impressed by illustrations and examples, on the mind of youth. It teaches, in few but significant words, what constitutes real manliness, regarding which boys are apt to entertain such erroneous ideas. The teacher should first point out the full force of the expression "that may become a man," by showing clearly man's position, duty and destiny, as revealed in the word of God. A catalogue of those things which become a man is given in Philippians iv. 8. The teacher should refer to this passage, and show that he only who dares do such things in spite of scorn, mockery or obloquy, deserves the name of man; and he who dares not do these things is no man.

Example 6.

That which in *mean* men we entitle—patience,
Is pale cold cowardice in *noble* breasts.

The nature of the morality taught in this passage will depend on the meaning we attach to the words—*mean* and *noble*. The teacher should point out the ambiguity which lurks under them. By referring to the context, it will be seen that the words really signify—*low born* and *high born*. In this sense it will be easy to show that the statement is erroneous; that patience is becoming the *noble* as well as the *mean*; that one rule of conduct is applicable, in God's sight, to both. If the words are employed, which, according to present usage, they may be, to denominate respectively the class, who, from want of spirit, tamely submit to any injury, and the class who, like Paul before the Roman governor, stand upon their undoubted rights, then the lesson taught is good, and may be impressed strongly on children.

11. An acquaintance with the sources from which our language is derived is valuable on many accounts; indeed no one can be said to have received a thorough English education who is ignorant of the history and the development of our language. Frequently it happens that a knowledge of the root of a word supplies the key to its meaning, although it can not be denied that as frequently the literal meaning conveys but an imperfect idea of its present application. Thus the literal meaning of *import* would not impart any thing like a full picture of the signification of the word. And not only is this the case, it is also to be remembered that words have, in the course of centuries, entirely changed their meaning, and are now used in senses very different from what they were originally, *e. g.*, the words *villain*, *pagan*. Again, in many words the meaning, as determined by the root, still remains; but an additional meaning has been analogically superadded, *e. g.*, in the words *apprehend*, *apprehension*, *sentence*. Now in all these cases the mere knowledge of the root will not serve any high end in education, and we would be inclined to condemn, as a piece of what is popularly termed clap-trap, those exhibitions, still too common, in which children repeat with great volubility all the derivatives of the more common roots, without having the faintest idea of their true signification. Derivation is generally taught synthetically; a list of roots, prefixes and affixes, is placed before the child, and he is compelled to commit to memory the whole, with the representative words to the bargain. This is reversing the natural order. Derivation ought to be taught analytically. The child should not be troubled, at least until considerably advanced, with any ugly, unmeaning string of roots. And yet derivation should and may be taught from an early period, and in the following manner. In the ordinary reading books, when a compound word, such as *tea-pot*, occurs, the attention of the pupils should be turned to it, and it should be pointed out that the word consists of two separate significant words. They might be asked to give other words formed in the same way, such as *wind-mill*, *house-top*, *&c.* In a similar manner secondary words should be dealt with. Such words as *runner*, *courser*, *tanner*, *&c.*, would furnish opportunities of analysis, and it could be easily shown that the termination *er* produced a change on the original word, and that the change of signification was well nigh uniform. So also with such words as *wisdom*, *kingdom*. Adjectives and adverbs should be treated in a similar way, and it would be no difficult thing to show by such words as *kingly*, *manly*, *royally*, *manfully*, that the termination *ly* changed nouns into adjectives, and adjectives into adverbs. We need not multiply examples, the principle

is evident, and the only one which accords with the true idea of education. In regard to the roots or stems of words, the same method should be adopted. In such words as *missionary, permission, demission, proceed, recede, succeed, &c.*, the children would at once perceive a common element. The meaning of this common part should then be given, and when this has been done, it should be shown that in all the words this meaning may be traced. After exercises of the sort we have described have familiarized the pupils with the leading roots, a list of prefixes, stems, and affixes, arranged systematically, should be put into their hands, and may be committed to memory, although in reality this is of very little consequence. It is of the utmost importance, however, in going over this list, and in forming words from it, to notice clearly the literal meaning, and also the present application of the word. To make sure that the children thoroughly understand the correct use of the term, they should be made to construct short sentences in which it occurs. Thus, when the meaning of *import* has been explained, a sentence should be asked for, such as, *England imports cotton from America.* We need only remark further that in the advanced classes, the history of words should be traced; the changes in meaning which they have undergone should be used as illustrative of corresponding changes in the sentiments, the habits or the religion of the people. On this aspect of the subject we may refer the reader to the admirable little work on "*The Study of Words*," by Dean Trench.

THE TRIPARTITE SYSTEM OF ORGANIZATION.

PROF. MOSELEY, one of her Majesty's Inspectors of Schools, gives the following account of the Tripartite System of School Organization, which is a modification of the plan first tried by Mr. Oliphant, in the Sessional School at Edinburgh.

The first, and essential element of it, is the separate room for oral instruction, the devotion of the labors of the head-master chiefly to this object, (relieved occasionally by the second-master or pupil-teacher, with whom he exchanges duties,) and the throwing of the children in three great divisions successively into that room, for an hour twice a day, for the purpose of that instruction. Every other element of the plan admits of modification, but not that. If that feature of it be sacrificed, then the most important results which I contemplate from it, will, in a great measure, I conceive, be lost. It is no longer the plan which I recommend, or one from which I anticipate any very decided advantage.

Whilst in all that requires the independent exercise of judgment and discretion in the business of instruction—in all that involves the sanctions of religion,

and considerations of moral responsibility, and thus needs to be presented to the mind of a child with the gravity and the authority which can only be brought to it by the mind of an adult teacher; and in all that concerns the development of the judgment and intelligence of the child—the direct interference of the master in its education is necessary to any useful result, as well in reference to the youngest child in the school as to the oldest; I am not prepared to deny that there are certain elements in the business of a school, which, being essentially mechanical in their nature, may, under due supervision and with proper limitations, be conducted on the principle of mutual instruction. Reading, for instance, may, I conceive, as to its mechanical elements, and with a view to that individual instruction and mechanical practice which it requires, be taught by the aid of monitors—as young even as some of those to whom the whole business of instruction is intrusted in our existing schools—provided that each reading lesson so given is checked by a subsequent examination of the master; and that the subdivisions of children placed at any time under the instruction of a single monitor, do not exceed eight, or at the most ten, in number.

I will suppose the subjects of instruction in elementary schools to admit of the following division:—

1. Those which are properly the subjects of oral instruction.
2. Reading.
3. Writing, slate arithmetic, drawing, committing to memory—being silent occupations.

For these three subjects, I suppose separate localities to be assigned. A gallery and a separate room for oral instruction. Parallel desks arranged in groups for writing, &c. An open area or floor for the subdivisions receiving instruction in reading.

Corresponding to these three distinct branches of instruction, I propose that the children be formed into three equal divisions, and that, when the morning devotions and the Bible lesson have terminated, each division passes to one of these localities, and receives instruction in those elements of knowledge which are proper to that locality.

Calling the divisions, for instance, I., II., and III.; division I., will take its place in the gallery for oral instruction; division II., at the desks for writing, &c.; and division III., (in subdivisions of from 6 to 10,) upon the floor of the school-room, for instruction in reading, (or in the room set apart for that purpose, with a gallery, &c., if it be proposed to adopt the simultaneous method of teaching reading.) Now it will be observed, that there are three hours in the morning, and, in summer, three hours in the afternoon devoted to school business. I suppose the above distribution of the school to remain during the first of these hours. At the expiration of that hour, a change takes place; that division which was in the gallery receiving oral instruction, passes to the desks, for practice in writing, &c.; that which was at the desks, to the floor of the school-room for reading; and that which was reading, to the gallery, for examination by the head-master in that reading lesson in which the whole division has been receiving the instruction of the monitors. This arrangement continues during the second hour; a similar change takes place at the commencement of the third; and so each division passes in its turn (in the course of the morning,) under the personal examination and oral instruction of the master; each is occupied during an hour in writing, slate arithmetic, &c.; and an hour is devoted by each to mechanical instruction in reading.

If the localities appropriated to, 1. Oral Instruction; 2. Slate Arithmetic; 3. Reading, be represented respectively by the letters A, B, C, and the three equal divisions of the school by the symbols I., II., III., the following time-table will represent compendiously the arrangements which I have described in detail:—

Hours.	I.	II.	III.
9 to 10	A	B	C
10 to 11	B	C	A
11 to 12	C	A	B

It will be observed, that the first or lowest division of the school is occupied during the first hour in reading; that it is then placed under oral instruction, which oral instruction, conducted by the head-master, is supposed to be founded (where that is practicable,) upon the reading lesson which the children have just been practicing, and which always commences with an examination as to the extent to which they have acquired the power to read it mechanically. For the results of this examination, the monitors who have been employed in teaching it are supposed to be held, in some degree, responsible. The teaching of that lesson to each child in his subdivision, being understood to be assigned to the monitor as his task; the due performance of which is afterwards to be inquired into in every case by the master.

In carrying out this plan, I propose that the boys and girls should, in the morning, be taught together; I claim, however, the services both of the master and the mistress then, as well as in the afternoon. For schools whose average attendance of boys and girls does not exceed 100 this will be enough. For every additional 25 children, there should be a pupil-teacher; and if the number exceed 200, one of these at least should be replaced by an assistant-master.

The station of the mistress is to be the reading-room; that of the pupil-teacher the desks, where writing and slate-arithmetic are taught; and that of the master the gallery, where oral instruction is given.

I propose, then, in respect to the hours of morning instruction, that the teaching of reading shall be intrusted to the mistress.

That for the purpose of this instruction, each of the three divisions of the school shall, during the hour when it occupies the reading-room, be formed into two sections, one being composed of as many of those children who are most backward in their reading as the mistress can herself adequately instruct in a single class; the other section being broken up into subsections, each composed of not more than eight children, and each placed in charge of a monitor.

The whole of the children of each of the great divisions is, when in the reading-room, to be occupied in reading the same lesson; and the time-table of the schools to provide that, when the hour allotted to it in the reading-room is expired, it shall be transferred to the gallery for oral instruction by the head-master, such oral instruction always commencing with an examination upon the reading lesson which has preceded—first, as to the ability of the children to read the lesson accurately; secondly, as to their intelligence of the subject-matter of it. If the reading lessons be properly selected, they will frequently serve

as the foundation of that oral instruction of the master which is to follow this examination. In those schools to which no infant school is annexed, some of the children will probably be so young, and so imperfectly instructed in reading, as to render it expedient that they should remain in the reading-room during the period assigned for instruction of the lowest division in writing, and during one of the two periods allotted every day to the oral instruction of that division. This is a modification of the plan in respect to which the master will exercise his discretion.

The writing, practice of arithmetic, drawing, &c., will be placed under the supervision of the pupil-teacher or assistant-master, who will nevertheless relieve the head-master, changing places with him from time to time, and taking up his task of oral instruction; but not at any other times, or in respect to any other subjects, than such as are prescribed in the school routine, and have received the sanction of the School Committee. It is not, however, to be supposed that the master to whom the duty of oral instruction is assigned is constantly to be occupied in *talking*. His duties include examination and the hearing of lessons; and from time to time he will pause, and require the children to write down their recollections of the lesson he has been giving.

In the afternoon I propose that the girls should be taught to sew by the mistress, in the room appropriated in the morning to reading; and that the boys be formed into three divisions, as in the morning, and similarly occupied; the two divisions employed in oral instruction and writing occupying one of the remaining rooms, and the other being appropriated to reading, under the supervision of the assistant-master or pupil-teacher. The number of children composing each division being greatly less in the afternoon than in the morning, I anticipate that the supervision of that division which is occupied in writing, under the care of an elder child, or monitor, will not interfere materially with the important task of oral instruction, with which he is more particularly charged, more especially as that task is not supposed to be incessantly plied, but alternated with periods when the children under oral instruction may be writing out exercises on their slates, or working examples in arithmetic, the principles of which branch of science I suppose to be taught as an important department of oral instruction. The duties of the master will be relieved by those of the assistant-master or pupil-teacher in the afternoon as in the morning, and under the same circumstances.

It is a characteristic feature of this arrangement, and that which I have principally in view in recommending it, that it brings each individual child, from the least to the greatest, every day, during one-third of its school-hours, under the personal instruction of the master; that it places the master under the most favorable circumstances which I can devise for conveying that instruction to him; that it compels him to take up the study of the child from the moment when it first enters the school, and that it entirely takes away from the duties of the master that voluntary and irresponsible character which they are made to assume, by a system which provides for the carrying out of the entire business of instruction without his intervention; that it emancipates the children from the monotonous control of the monitors, and from the noise of the reading-room, during two-thirds of the day; that when the children are under monitorial instruction, it places them in groups, under the charge of each monitor, less in number by one-half than the classes usually assigned to the charge of a monitor, all day long, by the existing system; that for the *great* business of the elemen-

tary school, *Reading*, its most tedious and difficult task, it provides, moreover, the services of an adult teacher (the mistress,) who is supposed to employ assistance of monitors only in respect to those children whom she is unable to teach herself; that each reading lesson so given it followed by an examination, as to the success with which it has been given, by the master; that whilst the services of the mistress are rendered available in respect to that branch which, however important, does not (under the circumstances,) suppose in the teacher that higher degree of attainment and general ability for the management of a school, which are so rarely found united in a mistress—it secures, nevertheless, to the girls (to whom it is at least as necessary as the boys) the highest order of instruction which the school will supply; that in respect to existing schools, it provides for this, without dispensing with the services of the mistress, or altering the present arrangements as to her salary; that, in respect to new schools, it enables the master to employ the services of his wife in the business of the school, under circumstances (with reference especially to that higher standard of education at which we aim,) in which they would not otherwise be available; that it economizes the labors of the pupil-teacher, making, by the union of the two schools, one such teacher sufficient where two would, if the schools were separated, be necessary.

Lastly, that, providing for those technical branches of instruction which are not only valuable in themselves, but necessary to secure that public opinion of the parents favorable to the school, on which its success must after all depend, it provides further for that oral instruction of a more general kind, which aims at results less tangible, indeed, but the highest contemplated in education, and the most valuable; that extends the benefits of this form of instruction from the highest to the meanest and lowest child, and that it brings to it the master spirit of the school, and all the sanctions with which the authority of the highest office can surround it; that in respect to his own individual part in the labor of teaching, it does not leave the master to the influence of no other motive than his own sense of duty, or that desire for excellence which it is so difficult to preserve in a remote and unobserved school, subject as it is to the antagonism of those prejudices which, lingering in the public mind, too frequently interdict all sympathy in his labors; but that it contemplates a system of instruction in which his labors shall constitute an integral part, and prescribes the subjects which he shall teach himself, and the times when he shall teach them.

XIV. ORAL LESSONS ON COMMON THINGS.

BY THOMAS MORRISON.*

Rector of the Free Church Training College, Glasgow.

1. ORAL INSTRUCTION ought to be employed in dealing with the principles of all the ordinary branches of school education. Text-books are mainly valuable, in that they present a connected and systematic view of any subject, and supply the various definitions and technical terms employed in connection with it. But no text-book can furnish information in principles, so clear and so conclusive as to supersede the necessity of oral instruction on the part of the master. In treating of such branches as arithmetic, geography, or grammar, by far the most valuable part of the information—that, namely, which relates to the fundamental principles on which these sciences are based—to be given successfully, must be given orally by the master. But, in addition to these regularly stereotyped branches of education, much useful and highly important information may and should be communicated to children in school—information which no series of text-books can adequately supply. We refer to incidental oral lessons upon various portions of natural history, natural science, and upon what has been termed in these modern days "common things." The books used in school too generally deal with dry abstract subjects—while the little world in which the child lives, his home—his food—his garments—the air he breathes—the various operations which he sees going on around him—are carefully and most religiously shut out from school.

2. In all these oral lessons, the knowledge acquired should be directed to practical purposes. In this way the child becomes acquainted with the science of common things. The mere knowledge of principles, whether in the region of natural or moral things, does not imply the power of directing that knowledge to practical use. It is quite a possible, nay it is, unfortunately, a too common thing, to find a person whose creed is thoroughly orthodox, and who has a clear intellectual discernment of the relation of the various doctrines which constitute that creed, but whose practice is sadly at variance with his belief. So it is in natural things. Our education is too formal. It is too much shackled with absurd conventionalities. We give our

* Abridged from "*Manual of School Management.*"

pupils much knowledge, but little wisdom. We supply abstract principles, but no directions as to their application. Now it must be borne in mind that we do not speak here of the attempt which some hair-brained visionaries have made, to convert the school into a general workshop, where the boys are taught shoemaking, tailoring, and other trades; and where girls are trained to bake and wash, and to perform such like domestic operations. We have already lifted up our voice in solemn protest against the introduction of such things into the elementary school. Much of our education has been, no doubt, an unreal, a visionary thing; much of it has been concerned with words, and nothing more, and, perhaps, it was natural, when a reaction set in against this state of matters, that many should err in the other extreme, and deny the use of knowledge of any kind which could not be immediately applied to practical purposes. We make no reference here to such attempts as these; but, while we deprecate with all our might such misapplications of the child's school life, we would insist on giving the child as much information as possible upon the application of those principles which we present to him. Thus, in dealing with the atmosphere, while we would give the child a knowledge of those ingredients which compose it, and of the laws which regulate it when in motion, we would also give him information upon the connection which subsists between health and a constant supply of fresh air—of the means whereby a dwelling-house, or other building, may be safely and effectively ventilated—of the cause and the evil results of draughts, &c.; so, when speaking of dwelling-houses, we would not only unfold the nature of the material employed in constructing the edifice, but also the necessity of having a dry foundation—how this might be obtained—the evils consequent upon over crowding, &c. We would not only teach the child the philosophy of the art of swimming, but that it is unsafe to bathe in all states of the body, &c. These illustrations will serve to show what we mean by the science of common things. The advantages arising from such lessons are obvious. The child associates the abstract principles of science with the common affairs of every-day life, and finds illustrations of them in objects the most unlikely. His interest is thus continually kept up, and, when he leaves school and enters on the actual battle of life, instead of performing his work blindly and in virtue merely of imitation, he does it with the intelligence of a man who has learned to trace the relations which subsist between theory and practice. We are satisfied that, were lessons of this kind more common, they would create an intelligence that would result in the greatest benefits to the body politic; and that such things as smoke-

nuisances—over-crowding nuisances—and many other foul and loathsome nuisances—would not be tolerated, no not for a day. At present, our laboring classes, more particularly in country districts, do their work mechanically, with little more intelligence than is shown by the dumb animals whose services they employ. Their school education enabled them to read but very imperfectly, and soon after their life of toil began, the little technical learning they had acquired became obsolete through want of practice, and so they settled down into that sad and most melancholy position in which nothing interests them which does not appeal to their senses. We need not wonder at the alarming prevalence of vice among our rural population. The lessons we are now treating of would, to a certain extent, serve to counteract the tendency which uneducated natures have to gravitate to the earthly and sensual. By opening up to them some of the wonders which meet in the most common objects, by training them to reflect on the principles involved in the most simple operations, and by guiding them to make, from a knowledge of principles, improvements in the mode of conducting these operations, we supply them with the means whereby their attention and their curiosity may be kept ever on the alert, and their minds exercised upon what is both useful and profitable.

ORAL LESSONS.—FIRST STAGE.

3. It is evident that, if young children are to receive any instruction at all, it must be given orally. For a very considerable time after entering school, they are unable to employ the art of reading in such a way as to derive much benefit from what they read. If their minds, accordingly, are to be exercised at all, if their young faculties are to be trained and developed, something more must be done than merely teach them the arbitrary signs of sounds. To keep a poor child for some months, or, it may be, years, poring over the A, B, C, and its combinations, is the sure and certain way to make him a dunce of the first water. In fact it would appear eminently natural to delay introducing the child to the acquisition of written signs, until he has been some time in school. The method which nature suggests, is to follow out the line of education which the child has instinctively pursued before entering school. He has been exercising his perceptive faculties on the various objects which surround him; he has been examining their properties and qualities, and acquiring a marvelously large stock of ideas, and of language in which to give expression to them. By means of oral lessons the teacher can take him up at the exact point at which he has arrived at the time when

his school life begins, and carry him gradually forward from one degree of knowledge to another. At first, accordingly, the attention of the child should be directed, in such lessons, to those properties of the object which he can discover by his senses. For this purpose the object must not only be described to him in words, but he must also see it, handle it, smell it, taste it, or hear it, as the case may be. Every one has observed how natural it is for children to touch those objects which interest them. So strong is this desire, that in galleries of art, in museums and such-like places, it is found necessary to caution visitors against touching any of the articles. This tendency is the exhibition of Nature's method of communicating information to the young or the unlearned. The teacher should fall in with this instinct of children, and allow them to exercise their senses upon the objects which he selects as the subjects of his early lessons. In this way they will acquire correct conceptions of them.

4. After a time, and when lessons of the kind described in last paragraph have given the master a basis on which to work, he should select, as subjects of lesson, objects which do not come within the sphere of the personal observation of the children. There are many objects in the world of nature which the children can never personally examine, but which ought not on that account to be excluded from their notice. Personal examination is a mighty help to clearness of conception, but, even without this personal examination, children may be trained to form very correct notions of many things of which they may never be able to take any direct sensible cognizance. The actual presence of an object in school is not necessarily of the essence of an oral lesson upon that object. Thus, the children may never have had the opportunity of seeing a lion, tiger, or elephant; and the master will find it rather difficult to obtain actual specimens of these animals, whether alive or dead, to take with him to school. What then? Is he to give no lessons upon such animals? Nay, verily; he may, by the use of proper methods, convey to the pupils a very accurate and, on the whole, distinct conception of the shape, appearance, and habits of these creatures. By means of a good drawing he can convey to the mind the general idea of the appearance of the animals, and, by comparing the unknown animal with one that is known, he may give distinctness to the general conception. Thus, the tiger resembles the cat, but is much larger. It is as high as some known animal—or as this (pointing to some part of the wall,) it is longer than—— about as long as——, &c. Anecdotes, illustrative of his character and strength, will still further serve to give distinctness to their conceptions, and, although the children might not be able, from

the description thus given, to draw an exact likeness of the tiger (supposing them capable of drawing,) they would still have some correct ideas of the animal, and the name would thus be associated with a distinct mental picture. To confine these oral lessons to familiar objects would be to limit most unnecessarily and prejudicially their sphere of usefulness.

5. One important end served by these lessons is that, by means of them, the child is acquiring a command of words, which will be of essential service in his future career. Even before entering school, the child has made considerable progress in the acquisition of words, many of which may not be over pure, although remarkably expressive. In acquiring these words, the child has almost invariably proceeded, unknown to himself, on the principle of obtaining first a knowledge of the thing, and then, as necessity arose for it, of the name. This furnishes to the teacher the true method whereby he ought to teach language in connection with these lessons. If the children have an expression of their own for the idea, it ought to be accepted; but, if the term is local or provincial, this ought to be pointed out, and the correct word given. If, on the other hand, the children require to be taught a new term, this should not be done until the idea, of which the term is a sign, has been clearly and thoroughly pictured out. This simple principle, in practice so often lost sight of, is so consistent with the soundest philosophy, that one is at a loss to conceive how any objection could be taken to it; and yet there are men who characterize it as a piece of humbug. The opposite method—that of giving first (and in too many instances *only*) the sign, is opposed to the very first principles of true education, and, if carried out, can only result in giving the semblance of knowledge without its reality. In all cases let the teacher present first to his pupils a clear picture of the idea, and its name will then acquire a meaning which it would not otherwise have, and when used, will call up a distinct conception in the mind. This linguistic aspect of these oral lessons is one, in our estimation, of great importance, which ought never to be lost sight of. It has been admirably remarked "What we have in the first place to do with, as representative reality, is spoken language. Now, it may be asked, to what is it owing that the same person, in humble life, whose provincial tongue is pregnant with meaning and full of vivacity, when he tries to speak correctly, which he may in some measure be able to do, expresses himself in the most formal and insipid manner? We think it the chief reason, as language possesses little or no intrinsic interest, deriving its suggestiveness from objects connected with it in the mind, that the rich

provincial dialect has been associated in countless repetitions with objects of living and perceived interest; whereas the correct mode of speech is chiefly remembered as having been met with in books, and it is therefore unaccompanied with fancy or lively conception. * * In order to be clearly understood, language must be easily spoken. The mere reading of school lessons will not fully accomplish either. The only successful course will be to associate words of pure English with felt and living realities."*

ORAL LESSONS.—SECOND STAGE.

6. The elementary lessons, briefly described in the last paragraphs, train the children to observe the properties and qualities of objects, and supply them with correct terms for the expression of their ideas. A subsequent series of lessons should have in view the tracing of the relations which subsist among the various parts of an object, or between different objects. This calls for a higher exercise of mind than the foregoing class of lessons, and may be made most valuable as a means of mental discipline, besides communicating a large amount of useful and valuable information. Thus, in an elementary lesson upon the elephant, it might be sufficient to convey to the children a very general idea of his size, appearance, and parts. In this second stage, however, the relation between the various parts of the animal should be pointed out, and attention called to the connection which subsists between his structure and his habits. The animal has got a very large and heavy body; hence we might infer something regarding his legs. They would require to be strong. The children may be told that they are almost perpendicular, like pillars supporting a heavy roof. He has also a heavy head, the weight of which is increased by the tusks. Suppose he had a long tapering neck like the camelopard, what might the consequences be? What kind of neck has he? But he obtains part of his food on the ground. His body being large and his neck very short, how can he accomplish this? Such questions prepare the mind for seeing a beauty and a wisdom in the compensation supplied in the shape of the trunk. We shall give several specimens of such lessons when we come to treat of subjects of oral lessons.

ORAL LESSONS.—THIRD STAGE.

7. A still higher grade of oral lessons should be given, with the view of training the reasoning powers, and of leading the children to infer consequences from premises laid down for them. "By books,

* Prize "*Essay on Education*."—Rev. D. Smith, p. 8.

the pupil can never be properly exercised in reasoning. As conclusion and premises follow one another, both of them being placed before the reader, he is under great temptation to assume both on equal authority. Hence the means must be used, in the first instance, to induce him to draw inferences which he has not thought of beforehand. Some men, entirely unexercised in reasoning, know just as much as they are told in plain language, or as they can perceive by their senses; but all men of ordinary capacity are able to acquire the power of concluding something involved in what is sensible, and deducing inferences from the information communicated to them. We would set out in lessons of this sort from something which the pupil knows, or which can be made patent and palpable to his senses, and go on from simple processes to more difficult, the complex conceptions thus acquired forming the components of new reasonings."* This series of lessons might embrace various portions of physical science—such lessons as we have specified in the chapter on geography—the more common pieces of machinery—the instruments employed in philosophical pursuits, such as the barometer, thermometer, &c. It is during this stage chiefly that the application of science to the explanation of common things should be dwelt upon. Every lesson should aim at turning the attention o. the pupil to an examination of those phenomena that meet him in his daily life. In this way all these lessons become lessons on the science of common things.

8. To conduct these lessons aright, the master must make himself well acquainted with each subject in all its bearings. The ability to talk to children upon a great variety of subjects does not necessarily imply that the master is capable of communicating real information, or of training the minds of his scholars. Something more is necessary than merely the power of speaking. The master must have ideas to communicate, and, in order to this, he must make a point of familiarizing himself most thoroughly with the subject. It is, no doubt, true that a person, whose stock of knowledge is large, may not on that account be the one who is best adapted to teach. But, if we were compelled to make our choice between the man of full mind and exact knowledge, but who may be somewhat defective in the art of communication, and the man of shallow views and vague conceptions regarding a multitude of things, but who may be apt to teach, we would have little hesitation in choosing the former. Where there is a full mind, there will constantly be streaming forth from it suggestions, and hints and thoughts, which will have far more effect in kindling the spark of intellectual life in children than the common-

* Prize "*Essay on Education*."—Rev. D. Smith, p. 23.

place verbiage of him who has a mere smattering of science. The first essential requisite, accordingly, in conducting these lessons, is that the master be at home in regard to each particular subject. Mr. Mosely remarks very justly and pertinently on this point—"That which lies very generally at the root of the failure of such lessons, and makes of what would, under other circumstances, be the most successful expedient and the highest resource of education, in too many cases an impediment to it—is an inadequate knowledge on the part of the teacher of that which he is teaching. He may know many things, and be generally a well-informed man, but if he fails in his lesson, it is commonly because he does not know the particular subject of that lesson. If his knowledge of it had covered a larger surface, he would have selected matter better adapted to the instruction of the children. If he had comprehended it more fully, he would have made it plainer to them. If he had been more familiar with it, he would have spoken more to the point. Wanting this knowledge of the subject, the time allotted to his lesson is filled up with words foreign to the matter in hand, as though it were a time set apart to be covered with a certain amount of talk, and as though a teacher must be assumed, as a matter of course, to be teaching so long as he is talking." Mere surface knowledge will not suffice. Where the knowledge extends no deeper than the surface, the teacher will to a certainty get into the habit of repeating, and of causing the children to repeat, words to which no definite meaning is attached. The knowledge must be deep and searching. The teacher must know the subject in its own nature and in its relations to other things. And, not only must the teacher have thus a thorough knowledge of the subject, but he must also possess skill and judgment to select those materials which are logically connected with the main subject, and to reject those which are connected in appearance but not in reality. All extraneous matter must be cast aside. Each lesson should have some one definite object in view, and while many things may be brought out incidentally in the course of it, they must be of such a nature as to bear upon the central idea of the whole. All the lines of each lesson must converge to one focus, and the lesson is not complete until they have all met, and until each is seen to have had a certain definite share in producing the final result. The skillful teacher will be known as much by what he rejects as by what he admits. We need only further add that, while each lesson is thus complete in itself, it is not necessary that the lessons follow any due order. One day the lesson may be upon some part of pneumatics, the next day on hydrostatics, and so on. But while this is the case,

the teacher should carefully keep a memorandum of the lessons given, and of the points brought out, that he may thus know the exact point at which to begin any new lesson. Unless some such memorandum be kept, there will be little likelihood of the successive lessons fitting into each other, and progress will be uncertain and unsatisfactory. To enable the teacher to ascertain where, in any given lesson, he ought to begin, he should preserve carefully the notes and heads of the lessons which he prepares for his own use previous to coming to the class.

9. Having thus selected the materials for his lesson, the teacher's next duty is to arrange them in the order in which he wishes to present them to his scholars. There is no stereotyped method of arrangement; nor can any models be presented which the teacher can, in all cases, implicitly follow. He must have the subject in all its bearings clearly mapped out in his own mind; and must determine on treating it in some given order; but the method of treatment will vary with the varying subjects. To adopt a plan which must be rigidly adhered to throughout, will be productive of as much harm as good. Many suggestions will be made by the pupils, as the lesson proceeds, and it is essential to success that the teacher be able to catch up these suggestions, and work them in to the lesson naturally and without effort. The chief thing to be attended to is that the teacher have some definite end in view in giving the lesson; for, when this is the case, he can intuitively turn to advantage every hint which occurs in the course of it. Where he adheres too rigidly to some one mode of arrangement, he may be able to see straight before him, but will miss many of the beauties which adorn the bye-paths. If, on the other hand, he has no definite end in view, he will be apt to linger altogether upon the various paths which cross the main road, and will thus never arrive at his destination. In all lessons he must commence with what the children know. Where he has to lay a foundation for the lesson, he ought to commence with that which possesses most interest, and makes the deepest impression, and thence proceed to what is less interesting, but, it may be, equally valuable. In giving lessons upon animals, the teacher may commence with the structure, and thence infer the habits and uses; or he may commence with the habits and uses, and thence infer the structure. As the structure of such domestic animals as the cow, the horse, &c., is well known to children, we would commence at this point in lessons on these animals. In lessons, however, on animals of the structure and habits of which the children were equally ignorant, we would prefer beginning with the latter, inasmuch as we could render such instruction very inter-

esting by the introduction of anecdotes, &c. Having thus laid the foundation, the pupils would follow with interest that part of the lesson which bore on the structure. In lessons on science and common things, the analytic or synthetic methods may be adopted, according as the teacher finds the one or the other more suitable. Thus in a lesson on "Smoke," we might commence with the smoke as it is seen issuing from the chimney, and trace its history backwards until we reached its cause. In a lesson on the "Winds," on the other hand, we might commence with the causes, and follow these out to their effects. In many subjects, especially those involving important discoveries and inventions, we might adopt what has been termed the Genetic method—that is, carry back our pupils to the very first steps of the discovery or the invention, and lead them gradually onwards to the present time. These hints, combined with the specimens we shall give, may be of some service to the young teacher in the matter of arrangements.

10. To assist the memory, and to make sure of due preparation, the teacher ought to commit to writing the leading points in each lesson. These "Notes of Lessons," as they are termed, are liable to be much abused; and we must be cautious in our recommendation of them. Sometimes the teacher writes out a series of questions and answers, and comes before his class in the expectation that the answers given by the pupils will correspond to those he has written. This seldom, if ever, happens; and accordingly the master, not receiving the answer he looked for, is thrown off his guard and is apt to become confused. Others again write out the substance of the whole lesson, which is of service in so far as it gives a mastery of the subject which nothing but writing can bestow. This plan, in the case of every lesson, entails an immense amount of labor, and, where the master has many duties to attend to, can not be well adopted. We would advise the teacher first to determine the leading points which he desires to bring before his pupils, and to write these down as the main stays of the lesson. He should next proceed to take up each part in detail—to reflect upon the method he would adopt in illustrating it and making it clear to his pupils, and thereafter commit to writing the leading thoughts under each division. He would thus have an abstract of the lesson in the order in which it was thought out, and a glance at the abstract would bring the whole vividly before him. For convenience in reference, he should next arrange the notes in such a way that, in the margin he would have the leading heads of the lesson, and in the remainder of the page those hints, illustrations and suggestions which presented themselves to his mind in the course of

preparation. Should he desire to write out the notes in full, this could be easily done. In the actual business of teaching the teacher should trust to his notes as little as possible. The heads of the lesson should be amply sufficient to guide him to the whole. The best notes are a full and thorough understanding of the subject, without which, indeed, all the notes in the world are but so much waste paper.

11. In conducting these oral lessons, it must be borne in mind that both master and scholars should bear their respective shares of the work. Any approach to the style of the pure lecture is to be deprecated, inasmuch as it encourages idleness in the pupils, and tends to render the master contented with giving information, without taking any precautions to ascertain if the information has been received. The master's part in the work is to have the particular subject in hand thoroughly got up, to be well acquainted with it in all its bearings and connections, and to have the various parts of it arranged in logical order, so that, when put together, they may form a connected whole. When he has all this ready, he introduces the subject to the notice of his pupils, and by means of questions, ellipses, suggestions and illustrations, he aids them to reason out consequences from the premises which he supplies. Oral instruction thus assumes the form of a conversation, in which the master acts the part of guide, while the minds of the pupils are constantly employed in making what to them amounts almost to new discoveries. This must never be lost sight of, because the tendency to lecture instead of train the scholars is naturally strong. In school, the lecture is comparatively useless. In its own place, and among those whose minds are sufficiently developed to follow a long train of reasoning, it may be turned to high account; but with pupils of the age ordinarily found in our elementary schools, the ability to listen to or comprehend a lengthened discourse has not been acquired. The master, accordingly, must supply his pupils simply with the facts on which he intends his reasoning to be based, and must lead them to draw the inferences from these facts. For this purpose he must make large use of analogy and illustration. Whenever a term is employed with which the pupils are not familiar, it must be clearly explained, and in the case of illustrations, he must always employ a known thing to illustrate an unknown. Unless this be attended to, no real progress can be made. The illustration must, in all cases, be from a familiar subject to one which is not so familiar. Thus, to illustrate the fact that air exerts a pressure, the case of the boy's sucker may be employed. This is a thing with which children are generally well acquainted, and the introduction of such an illustration will give the lesson a vividness and a naturalness, which it

might not otherwise possess. Analogies, in like manner, should be real and not apparent. Thus, in conducting a lesson on the circulation of the blood, recourse may be had for illustration to the mode by which a town is supplied with water. We have, in both cases, the great central reservoir, constantly sending off a fresh supply of the precious fluid; and in both we have the means of conveying away the fluid when it has served its purpose. The teacher should constantly endeavor to set before his pupils a distinct mental picture of the subject of which he treats; and, for this purpose, should press into his service every possible aid. Illustrations, analogies, pictures, drawings on the blackboard, &c., should be all employed to render the lesson graphic and interesting; for, unless it be made interesting and life-like, it will assuredly be a failure. While, therefore, in conducting any lesson, the teacher must attend to his manner, must modulate aright the tones of his voice, and must use appropriate gestures, he must not forget that all these things are but means to an end; and that, while in these respects the lesson may be faultless, it may still fail in making any impression on the scholars, simply because it was not interesting to them.

12. The remark with which we concluded last paragraph, furnishes one of the test which the teacher should employ in judging of the success with which he has conducted any lesson. In ordinary circumstances the teacher has nothing to guide him in this respect but the effect which the lesson is seen to produce. But the very fact of his isolation renders it incumbent on the conscientious teacher to adopt tests, whereby he may judge of the practical success of his teaching. In oral lessons, the life and interest displayed by the pupils will generally be a sure index to the ability and skill, or the reverse, with which the master conducts the lesson. Whenever, accordingly, he finds the pupils listless, dull, and restless, he may rest assured that he has failed to secure their interest, which is the first requisite in all teaching. After every oral lesson he should ask himself, not what stores of information have I poured out since the lesson began, but how much of that information have the children received? Let him adopt it as a maxim that a lesson has never been thoroughly given until it has been received. In addition to the test of which we have spoken, the master should devote a few minutes at the close of each lesson to the questioning of individuals on the leading points brought out; occasionally, also, the pupils may be required to write out the substance of the lesson, an exercise which will at once show how much of it has been received, and to what extent it has been understood.

13. NOTES OF LESSONS.—FIRST STAGE.

Example I.—The Cow.

Introduce the subject in a simple, natural way—Ask what the children take along with their porridge—*milk*. Whence do we obtain the milk—*from the cow*. Where will the cow generally be seen—*in the fields*. What doing—*eating grass*. What does the cow generally live upon? Notice the different *colors* of the animal; and see that they know what each color is like—some are *white*, some *black*, some *spotted*, and so on. What has the cow, of which this is a picture, got upon her head? *horns*. Have all cows horns? Of what use are the *horns* to the cow? How does the dog defend himself? the horse? the cat? &c. What is the *size* of the cow? Point out some object in the room about the same height, the same length. What do you call the young of the cow—*a calf*. You have said that we obtain milk from the cow. Is the cow of any other use? When the cow is killed, what do we do with her flesh? *eat it*. What do you call the cow's flesh, when she is killed? *beef*. Where do you buy cow's flesh or—*beef*? *In the flesher's*, or in the—*butcher's*? Is the skin of any use? What do you wear on your feet to keep them warm? *shoes*. Who makes the shoes? *the shoemaker*. What does he make them of? *leather*. Where does he get the leather? What is it made of? Notice in the same way the uses to which the horns, the hair, the milk, &c., are put. Such a lesson as the foregoing exercises simply the observation of the children, and gives them correct terms in which to express their ideas.

Example II.—A fire.

Where do you find fires generally placed? *in the grate*. (In a country district, in which there may be few grates, a different answer would be given.) What is the fire made of? of *coals*, of *sticks*, or *peats*, as the case may be. Did you ever see any one putting on a fire? What did they do first? Were the coals placed exactly at the bottom? What was placed below them? Why were the sticks placed below? Were the sticks placed flat on the grate? How were they placed? *slanting*. Why? After the sticks were laid in, what was next done? Were the coals thrown in or laid in? What would have happened to the sticks if the coals had been thrown in? What kind of coal were placed first upon the sticks? Why small pieces, and not large? Where was the fire applied? What did the sticks then begin to do? *to burn*. And what did this do to the coals? *It kindled them*. What did you see rising from the coals? *Smoke*. And what became of the smoke? *It went up the chimney*. What then is the use of a chimney? *To carry away the smoke*. If there were no chimney, where would the smoke go? *It would fill the room*. And how would you feel when the smoke filled the room? *Sore, uncomfortable, uneasy, unpleasant*. It would not be—*nice*, or—*pleasant*, to sit in a room filled—*with smoke*. Is the fire of any use? *It warms us*. Yes, it warms you, and makes the room—*warm*. What would the fire do, if you went too near it? *It would burn us*. Little children should never meddle with—*the fire*; they should always keep away—*from it*. Various other uses might be pointed out, and other simple lessons drawn. At a somewhat more advanced stage, the most economical way of making or of kindling a fire might be pointed out, and thus even to young children might be taught the science of common things.

Example III.—The Camel.

Exhibit a picture of the animal, and then ask them such questions as the following: What animals do we employ in drawing carts, carriages, and other machines? *The horse—the ass.* You have all seen a horse; what has he got on his feet? *Shoes.* What are they made of? *Of iron.* Why does the horse require shoes? What might happen to your feet, if you went barefooted among stones and such-like things? I saw a boy, when I was coming to school, running very fast along the road, and he had no shoes on. He struck his foot against a stone, and what happened, think you? *The foot was cut.* Yes, he hurt—*his foot,* and it felt—*very sore.* Now the horse has to go on rough stony ground, and what might this do to his hoof—*it would hurt it. Please, sir, I saw a horse which had lost his shoe, and he was lame.* Quite so, the horse would soon become lame if he had to work without—*shoes.* Now did you ever see a camel in this country? Do any of you remember where the camel lives? Yes, in—*hot, sandy countries.* Do you think will the sand be as hard as our roads, or streets? No it will be—*soft and yielding.* Do you think then that the camel will have shoes on his feet? Whether would you walk more easily through soft sand, with your shoes off or on? *With our shoes off.* Why? In this way, by noticing the habits of the animal, and by familiar illustrations, the children will be prepared to expect a difference between the camel's foot and that of the horse. In a similar way, by describing to them the long journeys which he is obliged to take through deserts, in which there is no water, they are prepared to appreciate the full value of the remarkable provision whereby this animal deserves the appropriate name of "the ship of the desert." As already remarked, instead of commencing with the habits and uses, the teacher may begin with the structure, and thence proceed to infer the uses. In all these lessons the teacher should never fail to call the attention of the children to the goodness of God in accommodating each animal to the circumstances of its life. We shall divide the following example into two parts, the first being suitable for young children, and the second for those who are more advanced.

Example IV.—The Elephant.

FIRST STAGE.

Introduction. Form and shape. Size. Uses.

Who have seen one? where? are they to be found in our fields, like the cow? no. Where then? in Asia and Africa.

Exhibit a picture of one—note the form—the body very clumsy—rounded, and large—neck very short, with large head—tusks—trunk—eyes small—ears long—feet short and thick.

Exhibit picture of comparative sizes of animals, show its position among other creatures—then by comparison give an idea of his actual size—compared with the horse—is he larger or smaller? Give average absolute height—about 12 or 15 feet—show this height by reference to the height of ceiling—give some idea of his actual bulk by showing what part of the room he would occupy.

Give anecdotes to show his disposition—his uses to man—the mode of his capture and so on.

By means of illustrations, comparisons, and contrast, animals which the children may never have seen can thus be brought somewhat

vividly before them. Assuming the foregoing facts to be known, we proceed, in the next stage, to reason, compare, and deduce conclusions from what has been observed.

SECOND STAGE.

Relation between body and legs. Relation between skin and eyes, and mode of life. Relation between head and neck.

Show if there is any connection—use of legs—a bridge for foot passengers, and one for a heavy railway train, would require what kind of pillars? Why the difference? Compare also the support of a heavy building and a light one—the legs of a child and a man. The legs must be made to support the body, their size and strength will depend what on? Now notice the remarkable fact that the legs of the elephant are verticle—like a pillar—each bone resting vertically on the one beneath it—the strongest form that could be devised. Note God's wisdom and goodness.

Either give the facts as to the skin and eyes, by showing how the first is hard and wrinkled, and the latter small and sunk, and from these facts deduce the mode of life; or, which in this case might be better, give his mode of life—living in the thick jungles of tropical forests, requiring to move among the tangled masses of undergrowth, with his huge unwieldy body, and then deduce what kind of skin and eyes would have been most suitable—a soft, easily pierced, or a hard, almost impenetrable skin—large protruding eyes, or small sunken ones. Note again the wisdom of God.

Note the head with tusks of great weight, and show how a long, tapering neck would have suited—and then observe the remarkable compensation supplied in the trunk, and the exquisite construction of this instrument so as to suit the creature's wants.

14. We subjoin a brief list of lessons suitable for the first stage of instruction. They are arranged in no given order, and are intended to indicate to the young teacher the almost inexhaustible supply of subjects of lessons. The great majority are selected from the list of those given in the Initiatory Department of the Practicing Schools of the Glasgow Free Church Training College.

Monkey,	Rose,	Linnet,	Rat,
Seal,	Gooseberry,	Lark,	Sloth,
Bear,	Cabbage,	Hen,	Horse,
Lion,	Barrow,	Swallow,	Reindeer,
Dog,	Window,	Vulture,	Eagle,
Hare,	Table,	Deer,	Thrush,
Mouse,	Bell,	Hog,	Duck,
Camel,	Chimney,	Rabbit,	Cuckoo,
Whale,	Chair,	Squirrel,	Crow,
Owl,	Clock,	Badger,	Worm,
Starling,	Cherry,	Leopard,	Moth,
Turkey,	Apple,	Bat,	Crab,
Goldfinch,	Lobster,	Hedgehog,	Strawberry,
Partridge,	Butterfly,	Cat,	Peas,
Herring,	Frog,	Weasel,	Watch,
Spider,	Elephant,	Wolf,	Sofa,
Grate,	Ass,	Carrot,	Clay,
Door,	Sheep,	Carriage,	Mortar,

Mole,	Hawk,	Stool,	Milk,
Tiger,	Pigeon,	Book,	Cheese,
Ferret,	Sparrow,	Paper,	Sponge,
Fox,	Salmon,	Glass,	Gutta Percha,
Beaver,	Oyster,	Leather,	India Rubber,
Gold,	Pear,	Grass,	Pen,
Silver,	Lead,	Leaves,	Wax,
Hair,	Tin,	Copper,	Coals,
Shilling,	Thimble,	Iron,	Stones,
Sugar,	Pin,	Scissors,	Needle,
Slates,	Honey,	Shoes,	Balloon.

The various trades might also be made the subjects of lessons—the shops in the neighborhood, and the most common domestic operations—thus :—

The making of	Tea,	The Grocer's
	Bread,	The Baker's
	Butter,	The Butcher's
	Cheese,	The Greengrocer's
	Candles,	The Tailor's
	Porridge,	
	Jam,	The Washing of Dishes.
	Jelly,	Scouring the Floor.

Shop.

As examples of lessons of a miscellaneous character, we may subjoin the following :—

Cleanliness and neatness of Person,
Advantages of Punctuality,
Covering of Birds,
Harrowing, Ploughing, &c.,
The principle of Weaving,
Yarn and Thread.

NOTES OF LESSONS.—SECOND STAGE.

15. We have already given one specimen of notes suitable for the second stage under the head "Elephant." We may also give the following :—

Example I.—Winnowing of Corn.

Why necessary. Object of winnowing. Grain and chaff. Separated by wind. Modes of winnowing. a. Natural. Objections to this mode. b. Artificial. The fanners. Construction. Winnowing defined.

To protect the grain when growing it has a covering—chaff. As the seed of the pea is contained in a pod, and that of the cherry in a pulpy substance, so grain has a covering for its protection. This covering—this chaff—becomes mixed with the grain when it is thrashed, and requires to be separated from it before the grain is fit for use.

The chaff must be separated from the grain. We have a heap of grain and chaff combined. What we require is the grain, not the chaff. What must we therefore do? We must obtain some means of getting rid of the chaff. The chaff is light, the grain is comparatively heavy. The chaff is very easily blown away. When you pull some stalks of growing corn from the field, you rub them in your hand, and then, changing the particles from one hand to the other,

you blow upon them. Why do you do so? By blowing you drive away the chaff, and leave the grain. The chaff can thus be separated from the grain by wind. Would such a plan as this suit if there was a large heap? No, it would be too tedious—would take too much time: we must therefore devise some other way.

Suppose we have a barn with two doors opposite each other—a strong wind is blowing, which causes a current of wind to pass through the barn—if we now throw up the corn, what will the current do to the chaff? It will blow it away, and the grain will fall. This plan is adopted, and was once very common; only, instead of throwing up the corn, it was put through a sieve or riddle. (Show how.)

To winnow in this way, we require to have two doors opposite each other—both open. We require also wind, but this we have not always; and even when we have wind, it might happen to be raining, and the rain would be blown in along with the wind; hence this plan is not very convenient.

If I move this book rapidly backwards and forwards before your face, what do you feel? Wind. What causes it? (Show by this, and other simple illustrations, that we can produce currents of wind artificially, and these currents may be as strong as we choose.) It is on this principle that the fanners are constructed. There is a wheel, something like the paddle-wheel of a steamboat. This wheel is turned rapidly round. Its revolution produces a strong current of wind, which is made to play upon the corn, and thus the chaff is separated from the grain.

Winnowing is separating the chaff from the grain; and is commonly effected by means of the wind artificially produced by a machine called the fanners.

Example II.—The Spider's Web.

Food of spider. How obtained. By means of its web. Web where formed. Of what formed. How formed. Spider's citadel. Dryden's description of the spider in her web.

The spider lives on flies and small insects. How do we catch flies? We might do it by the hand. The swallow catches them by its mouth, as it darts swiftly through the air. The spider has no hands, nor has it the rapidity of the swallow. How then does it obtain its food? If we wish to catch mice, what do we do? We set a trap. So the spider, *taught by instinct*, sets a trap to catch the flies on which it lives.

This trap is its web. It cunningly weaves a web with which to entrap the unwary flies, and, having entrapped them, it then feeds on them.

The house spider generally forms its web in the corners of a room or window. Why in the corners? Because it is more convenient to fix the two ends of the main threads on the corners; and on the window, because flies are more numerous there than on any other part of the house. The garden spider, for a like reason, generally forms his web among the bushes, in order to have points on which to hang it.

When we want to make a web we require threads. How does the spider obtain threads? Does it buy them, as we do, from a shop? No. The spider has in its body a gluey substance, from which it forms the web. "Nature has supplied it with a large quantity of glutinous matter within its body, and with five papillæ or teats, for spinning it into thread."

"When a house or common spider is about to form a web, it selects some commodious and secure spot, where insects appear to be in sufficient abundance.

It then distils a small drop of its glutinous liquor, which is exceedingly tenacious; and, creeping up the wall, and joining its thread as it proceeds, darts itself, in a very surprising manner, to the opposite station, where the other end of the web is to be fastened. The first thread thus spun, the spider runs on it to and fro, assiduously employed in doubling and strengthening it, as on its force depends the strength of the whole. The scaffolding being thus complete, the spider draws a number of threads parallel to the first, and then crosses them with others; the adhesive substance of which they are formed serving to bind them together when newly spun." When we make a web, we first lay thread lengthwise, then we insert others crosswise; so the spider. Having thus made the web, it covers it over with the gluey substance, that the feet of the fly may stick to it. It then spins a small house for itself, which is connected with the web, where it lurks until an unwary fly becomes entangled in its web, when it sallies forth and instantly destroys the unhappy intruder.

The treacherous spider, when her nets are spread,
Deep ambushed in her silent den does lie,
And feels, far off, the trembling of her thread,
Whose filmy cord should bind the struggling fly.
Then, if at last she find him fast beset,
She issues forth and runs along her loom;
She joys to touch the captive in her net,
And drags the little wretch in triumph home.

Example III.—The common Bat.

Description of. Belongs to the class mammalia. Its habits and mode of living. Why it exists. Adaptation to its mode of life. Senses of hearing and touch acute. Flies lightly. Can live on a small amount of food. In winter becomes torpid.

About the size of a mouse, and somewhat similar in appearance—has long ears, small eyes, four feet, and a covering of soft, darkish-colored hair, tipped with red. Feet five toed. Each of the fore feet has the inner toe loose from the others, and furnished with a hooked claw; the other four are enveloped in a thin, loose membrane, extending over all the body except the head, which, when the toes are spread, form the animal's wings. Toes of hind feet have hooked claws—mouth provided with teeth.

For a long time it was reckoned a bird; but it must be ranked among the mammalia, as it brings forth its young alive, suckles them, and has lungs like those of quadrupeds.

It makes its abode in holes of trees, caves, old ruins, etc.—is seen only during fine, calm evenings of summer and early autumn. Why? Its food consists of small nocturnal insects. It can not support itself on the wing for more than an hour at a time. Why? Owing to the delicacy of its wings. It builds no nest. Why? It can not easily raise itself when resting on its feet. It hangs by its hooked claws to the side of its hole, and in that position suckles its young. It passes the most of its time asleep. On the approach of cold weather, becomes torpid, and remains hanging to the side of its hole.

During the day many birds are clearing the air of noxious insects, but as evening comes on, they retire to rest. Many noxious insects fly only during evening and night; these are preyed on by the bat.

Most nocturnal animals are provided with large eyes. Train out why? The bat has small eyes; therefore must be adapted for finding its food in the dusk by some other means. What are these? It senses of hearing and touch are

very acute. Train out how the delicacy of these senses enables the bat to find its food. Noise made by the insects, and the vibration of the air.

To prevent the insects being scared by the flight of the bat, it flies very lightly, and without noise.

But the delicacy of its wings renders it unfit to fly long at a time; it must therefore be enabled to live on a small amount of food. It is so—and how?

It sleeps most of its time; and in winter and spring, when there is no food for it, it is torpid. GOD'S WISDOM AND GOODNESS.

Example IV.—Reaping of Corn.

Corn when ripe is cut by the hook or scythe. Mode of cutting. Effect of wind. Effect of rain. When cut it is put in stooks. Why? The stack yard.

When reaped—why not in summer, when the corn is green? It must be allowed to ripen to render the grain of any use. No fruit or grain is of much service until it is ripe—an apple—the potato—wheat, &c. Grain is ripe in autumn. How does the farmer know when it is ripe?—by its color and by the firmness of the grain, &c. When ripe he cuts it. Why not pluck it?—it would be difficult—it would cause much earth to mingle with it, which would be difficult to remove again. Sand is not very nice in bread or porridge; and the farmer keeps as much of the sand out as he can. Does he cut it with a knife, as you would a stick?—no. Why not?—it would take him too long time. What then does he use?—he uses either a hook or a scythe. Show how they are shaped, and why. If he uses a hook, does he work it as he would a scythe? no. Show how the reaper uses the hook—catches a handful of corn in his left hand, and cuts with the right. When using the scythe, does the farmer catch the corn with one of his hands?—why not?—what enables the scythe to cut through?—why does he cut it close to the ground?

If wind was blowing, would the farmer cut with or against the wind? What wind most favorable? Why would not the farmer cut in a very high wind?—why not in a wet, rainy day? What effect would the rain have on the cut corn?—hence what day most suitable for harvest operations?—a dry day, with a moderate wind blowing.

When the corn is cut, does the farmer leave it lying on the ground? What does he do?—he binds it into sheaves, and puts it into stooks—the shape of the stooks. What is the object of so putting it in stooks? Bring out that when uncut, even though ripe, the stalks had sap in them, and that if they were tied up in sheaves, and built in the stack-yard, they might rot. Why? Hence the grain is left in the field until it is quite dry.

What is then done with it?—it is built into stacks—their shape—why sometimes raised from the ground, and hollow inside.

Example V.—Why do we Water our Streets in Summer?

State of streets in hot weather. Water cools the streets. Water cools the air. Effects of watering our streets.

In summer, if the weather is hot, what happens to our streets?—they become parched, filled with dust, and very disagreeable. The dust, moreover, is injurious to our clothes, and to goods in shops, where the doors require to be open. Show how penetrating is the dust. How may we allay it?—by sprinkling water on the streets, just as a servant sprinkles tea leaves on the carpet before beginning to sweep it. The sprinkling of water thus keeps down the dust.

It does more. On a hot summer day, when the sun is shining, how do you feel if walking along the street?—very warm. Which side of the street do you walk on?—on the side sheltered from the sun. Why?—it is cooler and more pleasant. How do the stones feel?—hot—and they radiate that heat to the atmosphere, which also becomes hot, parched, and disagreeable. Sprinkling water on the streets not only keeps down the dust, it cools the streets.

It does more. What becomes of the water thus sprinkled?—it evaporates—passes off in the form of vapor. What causes it so to do?—heat. Heat is the cause of evaporation; but whence does the water obtain this heat? If you place your hand on a piece of iron or brass, how does your hand feel?—cold. Why?—the iron or brass abstracts the heat from the hand—the heat passes from your hand into the iron, which is in contact with it. So here, the warm, heated air is every where around the water—the heat passes from it into the water, and so causes it to evaporate. But will the air, having thus parted with a portion of its heat, be warmer or colder than before?—colder. It will be cooled.

The watering of our streets not only keeps down the dust, but it also cools the streets and the air, and makes it more pleasant for people to move about.

Example VI.—The Duck.

Form and shape. Its mode of life determines the kind of covering, the supply of oil, the position of legs and kind of feet, and the bill. Uses.

The Duck is about the size of a hen—about 23 inches in length—35 in girth—and weighs about 2½ lbs. Exhibit picture of—has two legs, placed pretty far back—effect of this—too much weight in front—hence when walking how does it appear? *Clumsy.* Covered with feathers—bill—eyes, &c.

Aquatic—picture out the term—lives partly on water, partly on land. Feeds on insects, grubs, and grain. Trace the connection that subsists between its living in water and its covering—what might the water do—make it cold—hence what? A thick downy covering—where? On those parts which are most exposed to the water, *i. e.* on breast and belly—note the wisdom in this—specific provision for a specific want.

Again what does water do to the feathers—ruffles them—now what may you observe ducks doing on a rainy day?—picking and dressing their feathers. Note the oil—compare it in this respect with a *droukit* hen—again a specific provision for a specific want.

Compare legs with those of the hen—what difference?—shorter. Why? Long legs would interfere with its motion when swimming. Compare feet with those of the hen—they are webbed—why? Show how it uses them. Bring out at this point the reason why the legs are placed far back—illustration—in driving a boat are the oars exactly in the middle—why? Again a greater weight in front enables the animal to plunge its head more easily beneath the water.

Compare its bill with that of hen—what difference do you observe—the duck's is shaped like a spoon—why? Show the nature of its nostrils, which act like a sieve in separating the food from the mud—the tongue also is very broad.

Eggs—Feathers—Flesh.

Example VII.—The Nests of Birds.

HEADS.—1. The use of the nest.
2. When formed.

3. What determines the situation.
4. What determines the material.
5. What determines the size.
6. Particular examples.
   a. The thrush.
   b. The lark.
   c. The eagle.

Example VIII.—The making of Grain into Meal.

HEADS.—1. Why grain requires to be ground.
2. The process.
   a. The drying—its object.
   b. The separation of the husk.
   c. The sifting.
   d. The grinding.

16. All the subjects given under the first stage may very appropriately be gone over in the second, somewhat in the manner indicated in the example "The Duck." The various parts of the animal —their relations to one another—the structure, and the connection between it and the habits and modes of life, may be thus exhibited more fully than was possible in the first stage; and the lessons thus made the means of communicating much useful information, and of developing the faculty of observation and the power of deducing simple but very important inferences. In addition, however, to the list of lessons already given, we may subjoin as specimens the following:—

The eye—its position and protection.
The manufacture of salt from sea-water.
The manufacture of wool into thread.
The common pump.
The thrashing of corn.
What is smoke—how may it be consumed.
Comparison between hen and duck.
Comparison between cat and dog.
Comparison between lion and tiger.
Comparison between elephant and camelopard, &c.
Glass—of what composed and how manufactured.
Paper—how and from what manufactured.
Tears—their nature and use.
What ought to be the exposure of our gardens.
How to prepare good tea.
Why does a gardener cover his flower-beds with matting in a clear calm night.
What kind of clothing should we wear in winter?
The evil effects of tight lacing—of tight boots, &c.
The beaks of birds—why difference in?
Which is warmer—a sheet or blanket.

The preceding examples will indicate to the young teacher the wide field from which he may cull the subjects of oral lessons.

NOTES OF LESSONS.—STAGE THIRD.

17. In regard to the class of lessons suitable for the third stage we beg to refer the reader to paragraph 7. The train of reasoning is considerably longer in the following specimens than in any of those previously given.

Example I.—The Thermometer.

Meaning of word. Various modes of determining the amount of heat. Effects of heat constant. Expansion furnishes measure of heat. Expansion of liquids most suitable. Mercury commonly employed. Glass Tube. How graduated. The Scale. Centigrade. Fahrenheit's. Reaumur's. How reduced to the same standard.

Means *heat-measure*, an instrument for measuring the quantity of heat in any given substance.

There are various modes of determining the amount of heat, e. g. *the sense of touch;* this is variable in different individuals, and in the same individual in different states of the body. What is warm to one may be cold to another, and *vice versa;* this consequently would not suit—so of other modes.

The effects of heat under given circumstances are constant for all places; one of its effects is expansion. Heat expands bodies, and that uniformly in all countries, according to the amount of it. *Expansion may consequently be assumed as a measure of heat.*

Solids expand under heat, but not to such an extent as to be easily appreciable. Gases expand too much to be conveniently employed. Liquids expand not so much as gases, but more than solids, and more uniformly than either. *Hence the expansion of liquids is employed as the measure of heat.*

Mercury expands very uniformly, and is most commonly employed; and *by observing its expansion and contraction, we have a sufficiently accurate measure of heat.*

For convenience sake, the mercury is confined in a tube, containing a bulb at one extremity, and closed at the other—*tube made of glass*—why? (Exhibit model, or draw one on blackboard.) Show how the tube is formed.

To enable us to read off the different amounts of heat in any substance at different times, the tube *has a scale fixed to it*—how formed? Two points are selected as the extremes, these points are the freezing and boiling points of water—plunge the tube into water when in the act of freezing, and mark where the mercury stands in the tube, (mark it on your drawing,) and you have the freezing point. Again, plunge it into water when boiling, mark where the mercury stands, and you have the boiling point. Call these two points any numbers you choose, say, 0 and 100; divide in this case the intermediate space into 100 equal parts, and *you have the scale.* These equal spaces are called degrees.

Such a Thermometer is called the *Centigrade*—why? *centum* and *gradus.*

The one generally used in this country *is called Fahrenheit's*—why? In it the freezing point of water is marked as 32, and the boiling point as 212. The intermediate space is divided into 212—32=180 equal spaces or degrees. Show why Fahrenheit employed these numbers.

Another one, *called Reaumur's*, has the two points fixed at 0 and 80 respectively.

It is easy to *reduce them to the same standard*, thus, the distance between the two fixed points in the Centigrade is 100, and in Fahrenheit's is 180. They are to one another as 100 to 180, or as 5 to 9, and so with Reaumur's, &c.

Example II.—The Barometer.

Meaning of word. How constructed. Pressure of atmosphere varies. Scale. Connection between atmospheric pressure and weather. Connection between atmospheric pressure and height. Marks on common barometer.

Is an instrument for measuring the weight or pressure of the air.

Take a glass tube, closed at one end, open at the other, fill it with a liquid, say mercury, put your finger on the open end, reverse it, and plunge the open end into a vessel containing mercury, taking care that no air gets into the tube. Suppose the tube to be 33 or 34 inches in length, will all the mercury in the tube sink down into the vessel? No. Why not? The pressure of the air on the surface of the mercury in the vessel supports the mercury in the tube. What height of mercury will the atmosphere in ordinary circumstances sustain? About 30 inches. In this case, therefore, we have a space of about 3 or 4 inches above the mercury in which there is no air. (Bring out this point clearly.)

The atmosphere does not in all circumstances exert the same pressure. Sometimes the pressure is greater—sometimes it is less. When the pressure increases will it support more or less mercury? Whether, therefore, will the mercury rise or fall—and so when the pressure is less. Thus, the rise or fall of the mercury in the tube is an index to the pressure of the atmosphere at any given time or place. To enable us to read off the difference of pressure thus exhibited, a scale is attached to the barometer. As the mercury in this country never sinks, at the sea level, below 27, or rises above 31, it is not necessary to have more than these marked on the scale. Where the instrument, however, is employed for meteorological purposes, the scale must descend much lower.

Bring out the connection between atmospheric pressure and the state of the weather. When the weather is good, the pressure is greater than when the weather is bad; hence the mercury will stand higher in good than in bad weather. Before a storm the mercury sinks rapidly; hence it is used to indicate the weather; is called a weather-glass. Show its use to the farmer, the sailor, &c.

Show, also, that as we ascend, the pressure of the atmosphere becomes less, and the mercury sinks; hence it is used as a means of determining heights.

Explain the terms which are marked on the common wheel barometer. Show how unsafe it is to trust to them—they often indicate the very opposite of what actually happens.

Example III.—Dew.

Watery vapor. The earth a good radiator. Radiation cools the surface of the earth. Dew formed. Application.

The atmosphere always contains a certain amount of watery vapor. Its capacity for vapor depends on its heat. Cool the atmosphere. it will contain less —increase its heat, it will contain more vapor.

The earth, during the day, when the sun is shining, absorbs a large amount of heat. In the evening, when the sun has set, the earth radiates its heat very rapidly. This radiation soon cools its surface. The air coming in contact with this cooled surface, parts with its caloric to the earth. Its temperature is thus reduced, and, as a consequence, its capacity for watery vapor is diminished.

The vapor it contains is condensed, and is deposited in the form of dew. Illustrate by bringing a cold bottle into a warm room. What happens? The moisture inside the window of a warm room, when it is cold without, &c.

If this be so, where will dew be most readily and most profusely formed? On those substances which radiate heat. Such is the fact. How can you stop the formation of dew? By stopping the radiation. Show how gardeners take advantage of this. Will there be more dew on a clear than on a cloudy night? Why on a clear night?

Example IV.—The Land and Sea Breeze.

Introduction. Land a better absorber of heat than water. Effects produced by its greater absorbing power. Land a better radiator than water. Effects of this. Cause of these breezes.

You have been by the sea-shore—you have been at the bathing. In what direction did you observe the wind blowing in the middle of the day? To the land—from the sea to the land. In the evening, when the sun had set, and when the ground began to cool, in what direction did the wind blow? From the land to the sea.

Bring out clearly the fact that the earth is a better absorber of heat than the sea—that the temperature of the sea remains in all places and at all times far more equable than that of the land. In bathing on a hot day, you must have felt the water cold, and the sand and rocks on the sea-shore almost insufferable hot.

When the sun has risen to some height in the heavens, the earth rapidly absorbs his heating rays, and so becomes warm. The air coming in contact with this heated surface, becomes also heated, is rarefied, and its equilibrium destroyed. How can the equilibrium be restored?—by the accession of cold currents—whence will these come? The sea does not absorb heat so rapidly as the land—its temperature remains more uniform—hence, while the air, resting on the land, is heated and rarefied, that on the sea remains *cold* in comparison—accordingly the cold air from the sea will flow in upon the land to restore the equilibrium.

Again, the earth not only absorbs rapidly, it also radiates its heat very quickly—it parts with it far more rapidly than the sea. Hence, when the sun has set, the earth cools rapidly—becomes colder than the neighboring sea. The air resting on the land partakes of this coldness; and being thus denser than the air resting on the sea, flows in upon the sea, until an equilibrium is restored.

The land and sea breeze is thus produced by the different absorbing and radiating powers of the land and water.

Example V.—Why does Ice float?

Heat expands bodies. Effect of this. Cold contracts, and so renders bodies specifically heavier. We would expect ice to sink. What would happen if ice sunk. Ice floats. Why? The law of contraction is arrested. Wisdom.

Heat expands bodies, and makes them specifically lighter; when, if liquids, they rise to the surface and float. The part of a substance that is lightest floats—thus the cream on milk—the dross in the process of refining, &c.

Cold, on the other hand, as a rule, contracts bodies, and so renders them specifically heavier. Ice is produced by cold, or by the abstraction of heat; and if water continued to contract during the whole process of congelation, the ice, when formed, would be specifically heavier than the under-lying water, and

would sink to the bottom. If the cold still continued, a new layer of ice would be formed on the surface, and when formed it would also sink; and so on, layer after layer would form and sink, so long as the cold was sufficient to freeze the water.

Picture out the consequences of this, especially in high latitudes—the rivers and lakes would become one mass of ice, which all the heat of summer would not melt; all life would die, and these part of the earth would become a dreary, icy solitude.

But ice, when formed, does not sink—it floats on the surface of water, like cream on milk, or dross—hence it must be lighter than the under-lying water; but to make it lighter what must have taken place in the process of its formation?—it must have expanded. Here state the remarkable fact, that when water has cooled down to 39½° F., the contracting process is suddenly arrested, and it begins to expand, and continues to expand until it forms into ice—supposed to be owing to the mode in which the crystals of ice arrange themselves.

But whatever the cause of the expansion, the beneficial effects of it are evident enough, and furnish a striking proof of the wisdom and goodness of the all-wise God.

Example VI.—Application of the foregoing Lesson.

HEADS.—1. *a.* Why do water pipes frequently burst in frost?

b. How may this be prevented?

2. Danger of allowing water in winter to get into chinks, etc., of buildings. Why?

3. Show how the principle may account for many of the convulsions of nature.

Example VII.—Locality often determines Custom.

Egypt, its physical features, etc. Seat of empire. Objects of worship. Every people respect their dead. The soil of Egypt unfit for burying in.—Why?—And results of. Entombing in rocks—first results of. Embalming—character of determined by the Egyptian's belief.

Egypt—a long valley formed by opposite ranges of mountains; the river Nile flowing between. Soil naturally dry and sandy. Climate dry and hot—rain seldom falling—its vegetation depending chiefly on the Nile overflowing its banks, thus moistening the soil, and leaving a covering of mud. Its mountains abound with caves, wherein the hyena, jackal, and many other beasts of prey, have their abodes.

Was early, and for a long time, the seat of a great empire. Mention their idolatry—some of the objects of their worship. Many of the native animals, which they embalmed and kept in their temples.

Every people pay great respect to their dead. The Egyptians did so especially. Refer to their belief in the transmigration of souls. The soil, because of its sandy nature, and owing to the dryness of the atmosphere, and prevalent winds, was unfit for the burial of the dead. Why? Wind obliterates the marks of the graves—the hyena and jackal could easily dig up the dead bodies. How the Egyptians would be horrified. Even near cities, which were planted near the Nile, the graves would be obliterated by the mud deposited by the Nile when it overflowed its banks. How would this affect the Egyptians? Set them to find out places of security for their dead. Where could they turn? On either hand mountains looked down on them, displaying caves—lay them there.

They did so. The result—in a few days they could not enter them. Why? the effluvia arising from decomposition caused by the heat of the atmosphere. What then? They must dispose of their dead; and they desired to have them safe, and free from disgusting sights and smells. What then? They knew how to preserve the animals they worshiped—do so with their dead relatives—hence embalming. Train out why they laid out such expenses on embalming—their belief in transmigration of souls. Thus explain the murmuring of the Israelites when Pharaoh's host was behind, the Red Sea in front, and high mountains on either side of them. "Because there were no graves in Egypt, hast thou taken us to die in the wilderness?"—*Exodus* c. xiv. v. 11.

Example VII.—Rice.

Conditions necessary to its growth. Air and light. Heat. Moisture. Where fulfilled Natural region of rice. Mode of culture. Nature of fruit. Nations who live on rice. How prepared for food.

Assume as known the general fact that vegetables require light, air, heat and moisture. In all parts of the earth the first two conditions are fulfilled, and, in so far as they are concerned, all plants might grow every where. But in addition to air and light, rice requires a certain amount of heat and moisture.

It will not thrive well unless there be a summer temperature of at least 73°4 of Fahrenheit. This at once fixes its locality to a certain extent. (Mark off on the map the countries which have this temperature—*i. e.* those lying about 40° on each side of the equator, more or less according to those circumstances which determine climate.)

But even within these limits it will not grow every where—*e. g.* not generally in the west of Asia, in Persia, Arabia, &c. Why? Because, although there is a sufficient amount of heat, there is not sufficient moisture. A great abundance of water is necessary to its growth. This is found in the S. E. of Asia, the Indian Peninsulas, China, Japan, United States, Italy, and certain parts of Africa —hence the rice will grow in these districts.

We have thus the habitat of rice—but even in the districts mentioned, where we have all the conditions specified, rice will grow in certain quarters better than in others. Bring out the fact that each plant has a natural locality, where it flourishes best.

Show how it requires to be covered with water—where the rivers do not naturally overflow their banks, and how is this done? By irrigation. Refer to the vale of Lombardy and the Po. Picture out the scene. Show how long it remains under water—in the ground—mode of reaping, &c.

It produces a greater return in proportion to the ground under cultivation than any other grain, but this is counterbalanced by the fact that it contains a larger amount of starch and a less amount of gluten than any other grain—consequently, bulk for bulk—it is less stimulating and nutritious. It is also destitute of fatty substances, so that, like all substances consisting chiefly of starch, it is not well fitted, if used alone, to support life, although it is very advantageous and economical when forming a portion of the food of man.

What nations live on rice—what is, in general, their disposition? Can you trace any connection between their soft, dull, phlegmatic temperament, and the food on which they live.

This part would, of course, be given to girls—our fair readers can easily supply the necessary notes.

Example IX.—The Cotton Plant.

HEADS.—1. Conditions necessary to its growth.
2. Where fulfilled.
3. How grown.
4. How prepared for manufacture.
5. Its importance to Britain, and the desirableness of having a supply from our own Colonies.
6. In which of them might it be profitably cultivated.

Example X.—Oceanic Currents.

HEADS.—1. Effects of heat on waters of the ocean.
2. Effect of earth's diurnal revolution.
3. Combined effects of these two influences.
4. Effects of interposition of masses of land, &c.
5. Trace these various effects in one known current.

18. We have already, in the chapter on Geography, given a list of subjects suitable for oral lessons in the third stage. Similar lessons should be given on the various points of natural science. We shall specify a few as mere examples.

Lessons on HEAT—
- Communication of heat.
- Conduction of heat.
- Radiation of heat.
- What bodies radiate best?
- Distribution of heat.
- How may heat be distributed?
- Absorption of heat.
- What kind of clothes most suitable for summer and winter wear?
- Expansion and contraction.
- Thermometer.
- Liquefaction.
- Vaporation.
- Elasticity of steam—Steam Engine.

Lessons on MECHANICS—
- Levers—Practical examples of.
- Wheel and axle.
- Pulleys—Advantages of.
- Inclined Plane, Wedge, Screw } Practical examples of.

Lessons on PNEUMATICS—
- Elasticity of Air.
- Pressure of Atmosphere.
- Air Pump—Common Pump—Forcing Pump.
- Fire Engine, &c.
- Philosophy of draughts—evil effects of—prevention, &c.

Lessons on Optics—

Reflection and Refraction of light.
Description of the eye—use of spectacles, &c.
Telescope—Microscope—Magic Lantern, &c.

As examples of lessons of a miscellaneous description, we may subjoin the following:—

Ventilation—of private dwellings—public buildings, &c.
Evils of bad ventilation—dry rot—fire damp, &c.
Why is it dangerous to drink cold water when the body is much heated?
Why is it dangerous to bathe when the body is much heated?
The circulation of the blood.
The connection between health and a constant supply of pure air.
Where ought a bed to be placed—near the floor or at some distance from it.

The earnest teacher can easily find subjects of lessons suitable for every stage of progress. The more common the objects are, the better, as they will thus appeal more directly to the interest of the children, and will tend to make them acquainted with the concerns of every-day life.

XIV. LESSON ON COLOR.

BY D. R. HAY.

THERE are three distinct kinds of color in nature, viz., yellow, red, and blue. The first is most allied to light, and is a color having no characteristic tone; the second is characterized by warmth of tone; and the third by coolness of tone. Yellow, red, and blue, are called the primary colors, because out of their various modes of combination all other colors, either in nature or art, are produced. The three colors which arise from the binary union of these primary colors are orange, purple, and green, orange being composed of yellow and red—purple, of red and blue—and green of blue and yellow; they are therefore called secondary colors. All other colors in nature and art arise from the union of the whole three primary colors, under an infinite variety of modifications, in respect to the relative proportions in which they are combined.

White and black represent light and darkness, and are not therefore considered as colors. When yellow, red, and blue, of corresponding intensities, are united together in equal quantities, a neutral gray, similar to the union of white and black, is the result; because it is the nature of these colors, when in triple union, to neutralize each other.

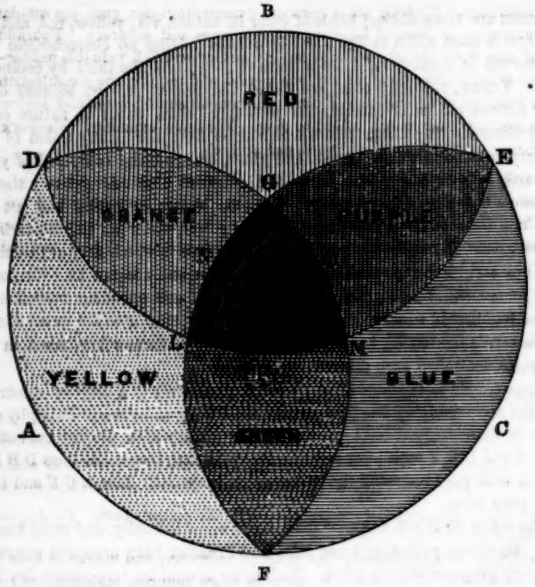
These simple facts would clearly exhibit themselves in a diagram constructed like the accompanying one (but without the dotting and straight lining by which color is there represented,) by coloring the space within the two curved lines D A F and D O F with pure yellow—the space with the similar lines D B E and D P E with pure red—and the space within the similar lines E C F and E N E with pure blue.

The colors thus put together must be of equal intensity, and quite transparent. Gamboge yellow, crimson lake, and Prussian blue, are quite suitable for ordinary purposes of this kind. Each color should be thoroughly dry before the other is put on, and then applied quickly in order to prevent the washing up of those first laid on. By this means the space D A F L remains yellow, D B E G red, and E C F M blue, while the space D G L is orange color, E G M purple, F L M green, and the center space G L M gray, all arranged in harmonious order, both as to that of succession and union.

The primary and secondary colors follow each other in the order of a primary and secondary alternately, as in the rainbow. The yellow, which being neutral as to tone unites with the warm-toned red on the one side in the production of orange, and on the other side with the cool-toned blue in the production of green, while the red and blue neutralize their respective warmth and coolness in the production of the secondary purple. The manner in which the most powerful harmonies of color occur within this circle is as follows:—on the line A E we find opposed to the neutral-toned primary color yellow, the secondary color purple, in which the warm-toned primary color red, and the cool-toned

primary color blue, have mutually neutralized each other, and thereby constituting purple, the true harmonic accompaniment to yellow. On the line B F, we find opposed to the warm-toned primary color red, the secondary color green, in which the cool-toned primary color blue is united with the neutral-toned primary color yellow, thus constituting green, the true harmonic accompaniment to red. On the line D C, we find opposed to the cool-toned primary color blue, the secondary color orange, in which the warm-toned primary color red is united with the neutral-toned primary color yellow thus constituting orange color, the true harmonic accompaniment to blue.

DIAGRAM OF COLORS.



The primary colors may be represented as follows:—

The contrast between each of these three pairs of harmonizing colors, is relieved by the neutral gray which occurs in the space G L M.

These varieties of tone in the three primary colors thus produce that harmony to which the eye responds with so much delight when dwelling upon the beauties of nature; and a proper knowledge of this species of harmony would enable us to render truly beautiful many of the most simple products of our labor.

XVI. BOOK NOTICES.

HISTORY OF THE CHURCH OF CHRIST IN CHRONOLOGICAL TABLES. By H. B. Smith, D. D. Scribner, 124 Grand Street, New York.

In these Synchronistic Tables, Dr. Smith has given us the best condensed view of the history of the Christian Church, with the great events of contemporaneous secular history, and the state of literature, philosophy and culture, which we have seen brought together in a single volume, or made available for immediate reference. Nothing but a personal examination can give the scholar and general reader an idea of its comprehensiveness and accuracy. Fourfold the cost of this work ($6.00,) will not bring together so much valuable matter—and then to get the same facts for any one period will require the consultation of a dozen volumes at an expense of time, and comparison of dates and statements, which but few readers can afford to give. We have examined this work with admiration, and gratitude to the learned author.

COLTON'S SCHOOL ATLAS. New York: Iverson, Phinney & Co.

These are the best specimens of Maps for School purposes which we have seen from the American press. In clearness, accuracy, and elegance, they will compare favorably with the recent German publications of Vogel, and Ritter.

EATON'S PRIMARY ARITHMETIC. Boston: Brown & Taggard.

This is a Gem of school book typography and appropriate illustration. And the matter seems worthy of the style of publication. Author and publisher deserve the gratitude of teacher and pupils for the manner in which this work is got up.

SELF-HELP. By Samuel Smiles. Boston: Ticknor & Fields.

This is one of the best books we have ever read to inspire a love of reading, study and work, and to cultivate habits of diligence, decision and perseverance. It should be read by pupil and teacher—the worker with the hands, as well as the worker with the brain—and be placed in every library, public and private.

THE NEW AMERICAN CYCLOPEDIA. Vol. X. New York: D. Appleton & Co., 443 Broadway.

Each new volume extends the range of reference, and makes us long for an early completion of the set. It answers more inquiries, stated in our reading and conversation, than any similar work.

GUIZOT; MEMOIRS OF MY OWN TIME. Vol. III., London.

We have in this volume a very interesting account of this great Minister's administration of the Department of Public Instruction in France, during the reorganization, or rather the institution, of the present system of Primary Schools. We shall transfer a large portion of it to a future number of this Journal.

SCOTT'S AMERICAN REPRINTS OF THE LONDON, EDINBURGH, NORTH BRITISH, AND WESTMINSTER QUARTERLY REVIEWS, AND BLACKWOOD'S MONTHLY MAGAZINE, come to us punctually within a few days after the English copy reaches our shores, each with rich and varied contents, keeping us abreast with the literary world on the other side of the Atlantic. Almost every number contains one or more articles specially interesting to the teacher and educator, and the general reader can always find something new and instructive.

WASHINGTON IRVING'S WORKS. *National Edition.* New York: G. P. Putnam, Agent, 115 Nassau Street.

We have before us specimen volumes (*Knickerbocker's New York, Sketch Book, Life of Washington*, Vol. I.,) of this fine edition of our National Classic. They are beautifully printed on heavy tinted paper, and substantially bound in beveled boards. This edition will be sold exclusively to subscribers, and will be issued in Monthly volumes. Price, $1.50 each.

CARLYLE'S ESSAYS. 4 vols. Boston: Brown & Taggard, 25 Cornhill.

This edition has been revised and corrected by the author, of whom there is a Portrait which is the best likeness we have seen. It is printed on the finest tinted paper, and has a copious index. There can be no better library edition.

THE WHITE HILLS. By Thomas Starr King. Boston: Crosby, Nichols, Lee & Co. p. 403.

A capital book both for the matter and the manner of its getting up. In typographical elegance, it is one of the handsomest issues of the American press, and for it æsthetic teaching, its graphic power in making travel and natural scenery minister to the development of taste, science and religion, the volume deserves a permanent place in our public and private libraries.

LECTURES ON THE ENGLISH LANGUAGE. By G. P. Marsh. New York: Scribner, 124 Grand Street.

This is one of the most valuable contributions to the thorough understanding of the English language—at once fascinating and instructive to the philologist and the general student. It has already done good service in turning the attention of teachers to a much neglected study in all our schools. Why do not our lexicographers enlist the critical and profound scholarship of this author in the revised editions of their dictionaries?

PECK'S GARNOT'S POPULAR PHYSICS. New York: A. S. Barnes & Burr.

Prof. Peck has given our High Schools and Academies, in his edition of the French Author, an admirable introduction—clear, logical, and illustrated—to the principles of Natural Philosophy in their wide applications to the useful arts, and to daily experience.

FASQUELLE, (LOUIS,) NEW METHOD OF LEARNING THE FRENCH LANGUAGE. Revised. New York: Iverson, Phinney & Co. 1860.

We have found Prof. Fasquelle's "Method," and his Course, generally what he claims for them, "a plain and practical way of acquiring the French Language."

THE TEACHER'S MANUAL OF METHOD, OR THE GENERAL PRINCIPLES OF TEACHING AND SCHOOL-KEEPING, WITH ILLUSTRATIVE EXAMPLES. By W. Ross. London: Longman. 1858. p. 212.

THE PRINCIPLES AND PRACTICE OF EARLY AND INFANT SCHOOL EDUCATION. By J. Currie. Edinburgh: Constable & Co. p. 310.

MANUAL OF SCHOOL MANAGEMENT. By T. Morrison. Glasgow: Hamilton. p. 356.

PASS AND CLASS: AN OXFORD GUIDE BOOK. By M. Burrows. London: Parker. p. 256.

THEORY AND PRACTICE OF NOTES OF LESSONS. By J. Jones. London: Sompkin, Marshall & Co. p. 136.

LANGUAGE AS A MEANS OF MENTAL CULTURE AND INTERNATIONAL COMMUNICATION; OR, MANUAL OF THE TEACHER AND LEARNER OF LANGUAGES. By C. Marcel. London: Chapman & Hall. 2 vols.